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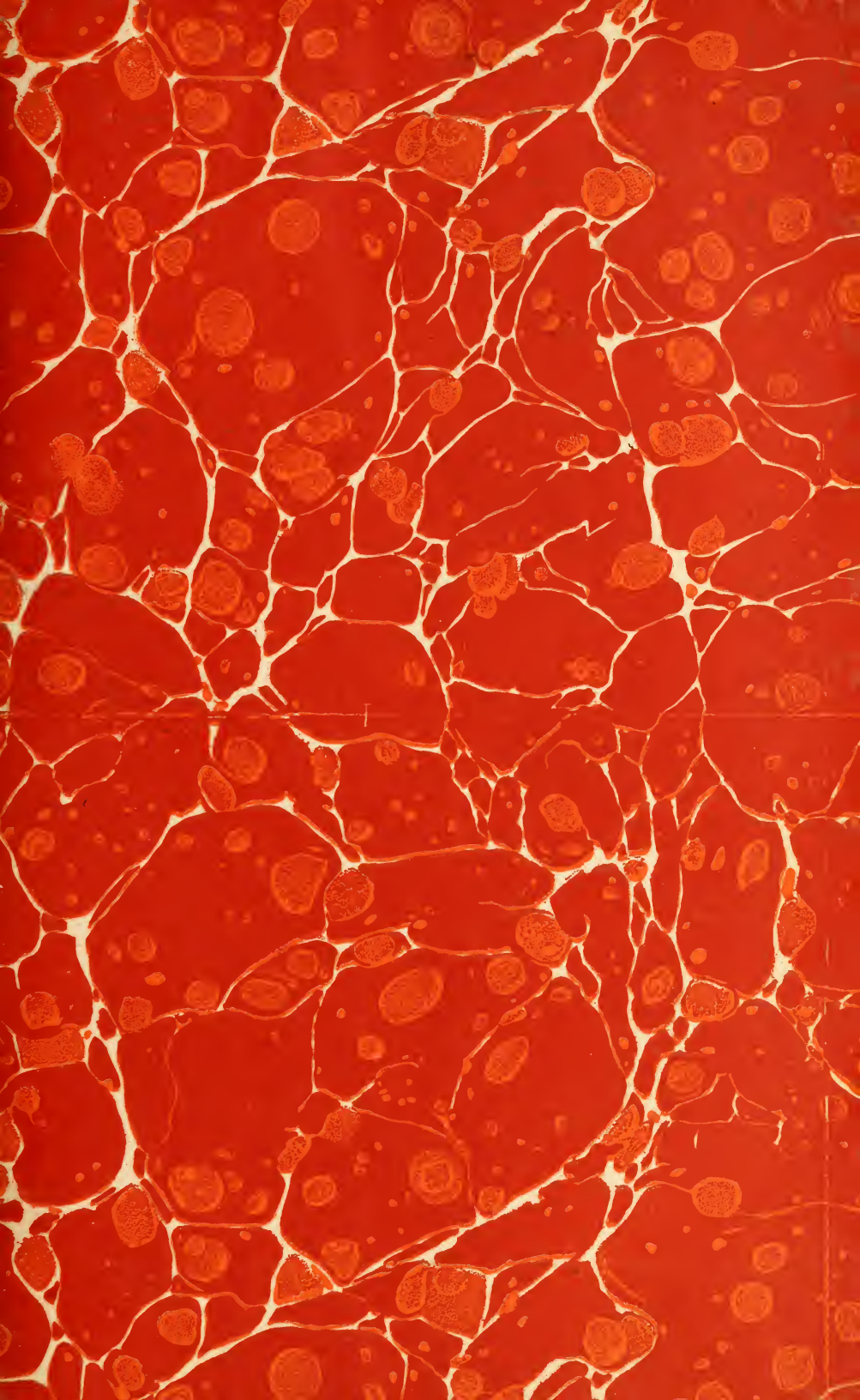
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U. S. DEPARTMENT OF AGRICULTURE.

Report No. 97.

INFLUENCE OF VEGETABLES GREENED WITH COPPER SALTS ON THE NUTRITION AND HEALTH OF MAN.

REPORT OF THE REFEREE BOARD OF CONSULTING
SCIENTIFIC EXPERTS.

ACTION OF COPPERED VEGETABLES ON THE HEALTH
AND NUTRITION OF MAN. By ALONZO E. TAYLOR.

INVESTIGATIONS ON THE EFFECTS OF FOODS CON-
TAINING COPPER COMPOUNDS ON THE GENERAL
HEALTH AND METABOLISM OF MAN. By JOHN H.
LONG.

ABSORPTION AND DISTRIBUTION OF COPPER WHEN
COPPERED VEGETABLES ARE EATEN. By RUSSELL
H. CHITTENDEN.

HISTOLOGICAL EXAMINATION OF THE TISSUES OF
DOGS AND MONKEYS. By THEOBALD SMITH.



WASHINGTON:
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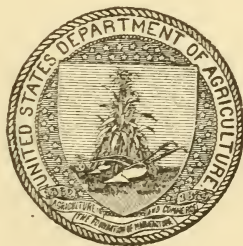
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LETTER OF SUBMITTAL.

UNITED STATES DEPARTMENT OF AGRICULTURE,
OFFICE OF CONSULTING SCIENTIFIC EXPERTS,
Baltimore, Md., December 19, 1911.

SIR: I have the honor to submit herewith a report of the investigations carried out under the direction of this board on the "Influence of Vegetables Greened with Copper Salts on the Nutrition and Health of Man."

Respectfully,

IRA REMSEN,

Chairman Referee Board of Consulting Scientific Experts.

HON. JAMES WILSON,
Secretary of Agriculture.

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REPORT OF THE REFEREE BOARD OF
CONSULTING SCIENTIFIC EXPERTS.

IRA REMSEN, *Chairman.*

RUSSELL H. CHITTENDEN.

JOHN H. LONG.

ALONZO E. TAYLOR.

THEOBALD SMITH.

REPORT OF THE REFEREE BOARD OF CONSULTING SCIENTIFIC EXPERTS.

The questions submitted to this board bearing on the influence of vegetables greened with copper salts on the health of man are as follows:

Are vegetables greened with copper salts adulterated under the food and drugs act of June 30, 1906, because—

- (a) A substance has been mixed or packed with them so as to reduce, or lower, or injuriously affect their quality or strength?
- (b) They have been mixed, colored, powdered, coated, or stained in a manner whereby damage or inferiority is concealed?
- (c) They contain any added poisonous or other added deleterious ingredient which may render such articles injurious to health?
 - (1) In large quantities?
 - (2) In small quantities?

Before attempting to answer in detail the questions submitted, it may be well to state that the coloring of vegetables by copper compounds, wherever practiced, is confined essentially to peas, beans, Brussels sprouts, and asparagus.

Since the use of copper salts is thus restricted, it was thought best by the board to limit, as far as possible, the experimental investigations to a study of greened vegetables obtainable in the open market. Three independent investigations were carried out: The first and second were designed to determine the effects of the ingestion of coppered vegetables on the general health and metabolism of the human subject. They were conducted by Prof. Alonzo E. Taylor, of the University of Pennsylvania, and by Prof. J. H. Long, of the Medical School of Northwestern University, Chicago. The third was designed to determine the absorption and retention of copper in the organs of animals and was conducted by Prof. Russell H. Chittenden, of the Sheffield Scientific School of Yale University. The tissues and organs of the animals used by Prof. Chittenden were studied by Prof. Theobald Smith, of the Harvard University Medical School, with special reference to any pathological alterations which they might have undergone under the influence of the coppered vegetables.

In the experiments conducted by Prof. Taylor and Prof. Long a number of young men in normal health were employed as subjects and fed on a diet containing known amounts of copper in the form of greened peas and beans, and also, in some cases, in the form of copper sulphate. These investigations extended over periods of 88 and 120 days, respectively, and included daily clinical examinations of the subjects, periodic qualitative and daily quantitative examinations of the urine, periodic qualitative examinations of the blood and the feces, and periodic quantitative examinations of the latter. In Prof. Chittenden's experiments eight dogs and four monkeys were fed for two months with greened peas and copper sulphate, and the amounts of copper stored in the liver and certain other organs were determined.

The conclusions reached as a result of the individual investigations are given at length in the separate reports herewith presented, together with all the data upon which these conclusions are based. The main general conclusions reached by the Referee Board from a study of the experimental results and other considerations are as follows:

(a) Copper salts used in the coloring of vegetables as in commercial practice can not be said to reduce, or lower, or injuriously affect the quality or strength of such vegetables, as far as the food value is concerned.

(b) Copper salts used in the greening of vegetables may have the effect of concealing inferiority, inasmuch as the bright green color imparted to the vegetables simulates a state of freshness they may not have possessed before treatment.

(c) In attempting to define a large daily quantity of copper, regard must be had to the maximum amount of greened vegetables which might be consumed daily. A daily dose of 100 grams of coppered peas or beans, which are the most highly colored vegetables in the market, would not ordinarily contain more than 100 to 150 milligrams of copper. Such a bulk of greened vegetables is so large, however, that it would hardly be chosen as a part of a diet for many days in succession. Any amount of copper above 150 milligrams daily may therefore be considered excessive in practice. A small quantity is that amount which, in the ordinary use of vegetables, may be consumed over longer periods. From this point of view, 10 to 12 milligrams of copper may be regarded as the upper limit of a small quantity.

It appears from our investigations that in certain directions even such small quantities of copper may have a deleterious action and must be considered injurious to health.

[Signed]

IRA REMSEN, *Chairman*.

RUSSELL H. CHITTENDEN.

JOHN H. LONG.

ALONZO E. TAYLOR.

THEOBALD SMITH.

ACTION OF COPPERED VEGETABLES ON THE
HEALTH AND NUTRITION OF MAN.

By ALONZO E. TAYLOR.

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ACTION OF COPPERED VEGETABLES ON THE HEALTH AND NUTRITION OF MAN.

By ALONZO E. TAYLOR.

PLAN OF THE INVESTIGATION.

The plan of the investigation, the results of which are herein stated, was to place a number of normal men on regular rations of coppered vegetables and to observe their metabolism and functions during a prolonged period of test. The amount of coppered vegetables that can be incorporated into a normal diet is obviously limited. The amount of copper used in the canning of vegetables in Europe (where alone the method seems to be in vogue) has been reduced within recent years. In fact, the pack of peas of a certain concern in Belgium was much less coppered in 1910 than in 1909. The dosage was therefore determined by the copper content of the market article. Even with the ingestion of high rations of coppered peas and string beans it has been impossible for us to secure the administration of over 25 milligrams of copper per day. This amount can not be termed a large dose under the wording of the assignment of investigation. It is an amount that any person of good appetite, living on canned vegetables, might ingest frequently. As a rule, however, in diets of choice, no person would consume the rations of peas and string beans that were taken by the members of our experimental squad. I have in no instance added any copper salt to the food, as the investigation was directed to the physiological action of copper added to canned vegetables in the process of packing. Six subjects were submitted to the test, which included a fore period and an after period, each of a fortnight, with a 60-day copper period between. There were two control subjects who lived upon a diet in every way comparable except that the peas and string beans consumed by them were not colored with copper. In two subjects I made separate tests of the action of similar amounts of copper administered as copper sulphate.

The purpose of the addition of copper salts to vegetables is to lend to the canned product a bright green color. The process is applied to peas, Brussels sprouts, string beans, and asparagus tips. The

sulphate of copper is added before the cooking and the copper is bound with the chlorophyl and protein of the vegetables in a quite irreversible combination.

The subjects were permitted to select the masses of their diet from the articles of diet selected at a conference. The articles of diet were such as to comport with the natural tastes of the men and were, in the amounts and combinations fixed upon, in every way to be regarded as good average and normal diets. All articles of food were analyzed daily or in unit lots. The urine and feces were subjected to analyses for the following components by the methods stated.

Total nitrogen.....	Kjeldahl.
Urea.....	Benedikt-Gephart.
Uric acid.....	Salkowski.
Purine bases.....	Salkowski.
Creatinine.....	Folin.
Total phosphorus.....	Official method of Bureau of Chemistry, U. S. Department of Agriculture, as pre- scribed for analysis of fertilizers.
Total phosphates.....	Titration with uranium acetate.
Fat of feces.....	Folin.
Ammonia.....	Folin.
Albumin in urine.....	Heller test; ferrocyanide and acetic acid; heat.
Sugar in urine.....	Fehling's solution.

The blood of the subjects was examined weekly by Dr. F. H. Klaer, who examined the urine daily for casts and other sediment. The subjects were carefully examined prior to the experiment by Dr. Alfred Stengel, professor of medicine in the University of Pennsylvania, who had medical charge of the men during the period of test. Each subject kept an individual clinical chart.

The copper was estimated in the foods, feces, and urine by electrolysis after ashing. The copper in the urine was in such traces as to yield only the faintest qualitative color reactions. The stools were marked into periods by charcoal. Throughout the test the men were under the very best of conditions of life, all excesses of exercise were avoided, and in every way we strove to eliminate adventitious influences. The subjects were students of medicine, engaged in the work of their courses. Since the color of the coppered vegetables was apparent, the men knew who were tests and who were controls. The men on the squad and the scientists in charge do not feel that the psychological factor thus introduced has led to any variation except in one instance.

DIET CHARTS AND MASSES OF INGESTED FOODS.

The diet charts of each subject for each day are printed later in this report. They contain the amount of each article of food for each day, together with figures for the amounts of nitrogen, phosphorus,

and copper contained therein. The copper was determined by analysis in the coppered vegetables only. The other foods contained minute traces of copper, not enough for estimation in the samples each day. This amount may, however, be approximately measured by the estimation of the copper output for the fore period, and this has been done. The copper output for the after period might be regarded as in part dependent upon retained copper of the test period. As a matter of fact, however, the copper output for the after period was little more than during the fore period. The figures for the total masses of the diets of the several subjects, together with the figures for copper ingested and the appropriate summaries and averages, are found in Chart II. The figures include the water ingested with and between meals. The diet chart (Chart I) gives the figures for the amounts of the different articles of food. These and the figures for total ingestions indicate that the diets were in every way normal and average diets. The rations of peas palled to some extent, but complaints on this score were not marked. Several of the men were naturally fond of peas and string beans, and with these men we were able to secure the ingestion of larger amounts than with the other men, without increasing the masses of their diets beyond their wonted magnitudes. The foodstuffs were of high quality, carefully selected, properly cooked, and attractively served.

ALIMENTARY TRACT.

Charts III, IV, and V contain the moist and dry weights of the stools—the nitrogen, phosphorus, neutral fat, and fatty acid—together with the appropriate summaries and averages. Chart VI presents the clinical data of the subjects, and under the appropriate heading are found the comments of the subjects on the signs and sensations of their state of health. From an inspection of these figures the following conclusions are to be drawn:

The moist weights of the stools were in all instances normal for the diets. The dry weights of the feces were normal for the diets. The differences between the test and the control subjects were only such as are to be found between normal individuals. The copper periods gave no figures different from the fore period and the after period of the test subjects.

The nitrogen of the dried feces was in all instances normal for the diets. In one subject (O. H. C.) a slight tendency to rise in the fecal nitrogen seems to be apparent during the period of ingestion of coppered vegetables. Otherwise the test period and the control period display no more than normal variations.

The phosphorus of the dried feces was in all instances normal for the diets. In subject O. H. C. again there is a tendency to increase

in the phosphorus of the feces comparable with the slight increase noted for the fecal nitrogen. These increments could have been due either to a slight increase in the alimentary secretions or to a slight reduction in resorption of the products of digestion.

The fat input was not measured, but varied in the different men, the approximate figures running from 50 to 100 grams per day. The input of fat was approximately constant for each subject. The figure for approximate input is stated in the chart. The figures for the output of total fat indicate that these were in all instances normal, exhibiting only the variations normally to be noted between individuals. The utilization of fat was very good in all the men. In no instance was the utilization decreased (i. e., the fat output of the feces increased) during the period of ingestion of the coppered vegetables. The relation between neutral fat and fatty acid in the feces was in each subject normal and not modified by the ingestion of the coppered vegetables.

The clinical charts of the subjects contain their comments on their sensations of health. Subject E. H. B. displayed unmistakable indications of psychic reaction the very first day that he was placed on coppered peas. This behavior continued, and after a week he was taken off the coppered peas and placed as control. Subjects O. H. C., C. P. K., W. C. T., J. F. W., and M. W. consumed the coppered vegetables throughout the two months without any symptoms of indigestion, except one attack of vomiting by O. H. C., and in others a few slight alimentary symptoms such as might occur on any diet. Subject C. P. K. left the squad for five days on account of tonsillitis and bronchitis. Subject M. H. B. toward the close of the copper period complained of diverse symptoms related to the alimentary tract. His case will be discussed by Dr. Stengel in his appended report. Apart from this subject, the members of the squad can not be said to have enjoyed other than their usual good digestion during the period of ingestion of the coppered vegetables.

Summary.—The ingestion of amounts of copper up to 25 milligrams per day in the form of coppered vegetables seems to exert very slight if any noticeable untoward action upon the alimentary tract.

VOLUME AND SPECIFIC GRAVITY OF THE URINE.

The figures for the volume and specific gravity of the urine are of very little value, since other variables, such as perspiration, produce wide fluctuations. Individual variations are of course marked, as the water input of different men varies widely. The figures given in Chart VII are entirely normal, and the fluctuations are such as are to be seen in normal men living under similar conditions.

NITROGEN BALANCE.

The figures for the nitrogen balance are in Chart IX.

Subject E. H. B.'s retention of nitrogen during the fore period was 2.8 grams per day. During a 9-day period on coppered peas he retained daily 2.2 grams. During a 36-day control period he retained 0.7 gram daily. During the final 7-day after period he retained 1.3 grams daily. Except for the low retention during the test of copper sulphate (which will be later discussed) it is clear that this subject, largely a control, was retaining nitrogen as we commonly see young men retain nitrogen, in the form of flesh. He gained 1 kilo in weight.

Subject M. H. B.: During the fore period he retained daily 1.6 grams of nitrogen. During the experimental period he retained daily 1.8 grams. During the after period he retained daily 1.7 grams. The man gained 2 kilos in weight.

Subject O. H. C.: During his fore period he retained 0.9 gram of nitrogen daily. During the period of coppered vegetables he retained but 0.4 gram daily. During the after period he retained still less, 0.2 gram per day. His weight was stationary. The conditions during the test and the after period were scarcely a balance, as about 0.3 must be allowed for perspiration and growth of hair. Apparently under the influence of a diet containing coppered vegetables, a slight retention was reduced to a bare balance in nitrogen.

Subject E. B. F. was control for 77 days. During this time he retained daily 1.8 grams of nitrogen. He was then placed for 7 days on 0.032 gram of copper (as sulphate) and during this time retained 0.7 gram per day. During the after period of 8 days his retention rose again to 1.4 grams. Evidently copper sulphate noticeably modified his nitrogen balance during the few days it was administered. Discussion later. He gained a kilo in body weight.

Subject C. P. K.: During the fore period he retained 0.9 gram daily. During the test period he retained 1.2 grams daily. During the after period he retained 1.2 grams daily. He lost nearly 1 kilo in body weight. The result was evidently negative.

Subject W. C. T.: During the fore period he retained 2.9 grams daily. During the test period he retained 2.6 grams daily. During the after period he retained 2.7 grams daily. The man gained 2.5 kilos in weight. The result is negative.

Subject J. F. W.: During the fore period he retained 0.6 gram daily. During the test period he retained 1 gram daily. During the after period he retained 0.9 gram daily. His body weight decreased 1 kilo during the experiment. The result was negative.

Subject M. W.: During the fore period he retained 1.7 grams daily. During the test period he retained 2.1 grams daily. During

the after period he retained 2.1 grams daily. His weight increased 4 kilos, evidently a fat gain as well as a flesh gain. The result was negative.

Summary.—Except in subject O. H. C. it is clear that the coppered vegetables had no effect upon the nitrogen equilibrium. There was in all cases retention, such as one may commonly find in young men. From the figures for retention must be subtracted about 0.3 gram daily for cutaneous loss of nitrogen. In the case of O. H. C. the man was in bare equilibrium during the test period. He had during the fore period a low retention, which fell to nothing during the test period with coppered vegetables, and this persisted during the after period. This man exhibited the most marked retention of copper. It would have been very desirable to have kept this man under observation for a time following the after period, but as the college year had closed this was not possible. It was in this subject also that the nitrogen of the feces rose during the test period. The man was on a liberal nitrogen input. In the absence of any other cause it may be inferred that during the period of ingestion of the coppered vegetables the subject had difficulty in maintaining his nitrogen equilibrium. At the same time we must realize that the figures fall within the limits for the plus-or-minus error for the total nitrogen estimation, 0.2 gram per day.

PARTITION OF NITROGEN IN THE URINE.

With the exception of the figures for uric acid during the first part of the fore period, the figures for urea, ammonia, uric acid, purin bases, and creatinine are entirely within the normal and usual limits, and no variations are to be discerned between test and control subjects or between control and test periods. The figures for uric acid during the first days are abnormally low. The low figures might have been due to some methodic error, constantly present and always operative in one direction. No such error could be detected, and the analyses were in the hands of experienced chemists. In any event, the matter is of no importance to us here, as the figures rose to normal and remained there during the test periods and rose in all subjects alike and at the same time. Without being able to understand wherein the error lay, I am inclined to consider these low values to have been erroneous. The figures for the purin bases are constant and normal throughout.

PHOSPHORUS BALANCE.

Phosphorus is not eliminated by the skin. If the phosphorus of the diet and feces be estimated, the total phosphorus of the urine ought to yield a relation of equilibrium. The phosphorus balance has a different meaning than that of nitrogen, the one being applied to the

nucleic metabolism, the other to the metabolism of common protein. One uncontrollable variable in a phosphorus balance is the assumed stability of the osseous system. The following table gives the daily retentions of phosphorus in grams in the different subjects during the control and test periods.

Summary of daily retentions of phosphorus (grams).

Subject.	Fore period.	Test period.	After period.
E. H. B.	0.22	0.16	¹ 0.08
M. R. B. ....	.13	.18	.12
O. H. C. ....	.02	.03	.15
E. S. F. ....	.17	-----	.01
C. P. K. ....	.07	.08	.17
W. C. T. ....	.30	.25	.08
J. F. W. ....	.60	.11	.28
M. W. ....	.15	.16	.11
			.21

¹The two figures for phosphorus retention in subject E. H. B. correspond to two different after periods, one as control.

Individual variations are rather striking. But the figures of any individual for the test and control periods show no variations of note. The very lowest figures are in subject O. H. C., who had the bare equilibrium in nitrogen. Some of the higher figures suggest that these young men were still building bone. But no action of the coppered vegetables is to be discerned in these values.

COPPER BALANCE.

Table of copper balance.

Subject.	Input A.	Input B.	Total input.	Output.	Retention.
E. H. B.					
M. R. B.	1.034	0.150	1.184	1.011	0.17
O. H. C. ....	.811	.115	.926	.700	.22
E. S. F.					
C. P. K.	1.306	.150	1.456	1.258	.20
W. C. T. ....	.912	.120	1.032	.973	.06
J. F. W.	1.481	.125	1.606	1.435	.17
M. W.	1.449	.125	1.574	1.430	.14

Subjects E. H. B. and E. S. F. were controls. Under copper input A is stated the copper contained in the coppered vegetables eaten by the subjects. Under copper input B is the copper accidentally ingested, this figure being based on the copper of the feces of the fore period of each subject. In all cases there was retention of copper. In two it was low, in one moderate, in three high. There is of course a plus and minus error in the estimation of the copper, due largely to sampling. It is not conceivable that the error of the sampling should have been always in the direction of plus, and in the six men always to a certain degree; in the feces always

in the direction of minus, and in the six subjects always to a certain degree. The figures mean retention. It may have been more or less than revealed in the figures, but retention it was. The six subjects, on the basis of these figures, ingested 7.78 grams of copper and eliminated 6.80 grams, a retention during the test of 0.98 gram or 12+ per cent. In the case of the three subjects who retained the most, the percentage of retention was 31, 16, and 16 per cent; for the others the figures were 10, 10, and 6 per cent. The subject who retained the most copper was the same man who exhibited the bare equilibrium in nitrogen and phosphorus and the rise in fecal nitrogen during the test with coppered vegetables. This copper was presumably retained in the liver. If we may reason by analogy based on our knowledge of lead and mercury, the metal is subject to redistribution throughout the body. The retained copper is evidently slowly eliminated by the intestine. The average weekly output of copper in the feces during the fore period was 0.016 gram. During the after period, the subjects being on the same diet as during the fore period, the average weekly output of copper in the feces was 0.023 gram. From these figures it is apparent that a long time would be required to free the body of the copper retained during the period of test.

INFLUENCE OF THE COPPERING PROCESS UPON THE DIGESTIBILITY OF VEGETABLES.

It is not possible to make comparable tests, since the coppered market vegetables should be compared with the same lot of vegetables canned in the absence of copper. When the coppered peas are exposed to the action of a peptic digestion, followed by a tryptic digestion, the process of hydrolysis proceeds so slowly as to suggest either that the presence of the copper depresses the ferments, or that the copper combinations are resistant to digestion. After a week's digestion, a great deal of the protein of the peas is still undigested, and no ionic copper is to be detected in the fluid. The conditions of experimentation *in vitro* are not at all comparable with the conditions *in vivo*. The products of digestion are not removed, and this leads to cessation of the reaction of hydrolysis. The amount of copper is so small in comparison with the amount of undigested protein, that one could not expect to find ionic copper. In the intestine one further difference is to be noted. Should copper be dissociated from its combination with protein, it would meet with hydrogen sulphide in the intestinal gases. Despite the appearances of very slow digestion of coppered peas *in vitro*, the nitrogen figures for the dried feces of the subjects present no indications of such indigestibility. The copper exists in the feces partly in the state of sulphide, partly in combination with the fecal proteins and chlorophyll.

EXAMINATIONS OF THE BLOOD.

The blood was examined weekly, just before dinner, five hours after lunch was eaten. The results of these examinations by F. H. Klaer are given in Chart X. The figures present the usual normal range of fluctuations in the count of the different cells of the blood and in the percentage of hemoglobin. There are no deviations to be noted in the test periods as against the control periods. The results are negative.

EXAMINATION OF THE URINE.

These were made with great care, on account of the relations to the kidneys known to exist for the heavy metals. The results of these examinations are given in Chart XI. The results are entirely negative except in subjects M. H. B. and E. S. F. M. H. B., a test subject, had casts rather often during the early part of the test period. Later, however, they disappeared. Subject E. S. F. was control. His urine presented albumin oftener than that of any man on the squad, and casts were almost regularly present. In this urine it was not a matter of a very few casts, such as may often be observed in normal urine after thorough centrifugation; there were many casts. The condition became worse during the period of experimentation, despite a regulated diet and life. This man illustrates the care that must be taken in the interpretation of results in tests of this kind. Had this subject been placed on the coppered vegetables (he was control by chance) the results might have been interpreted as the effect of copper on the kidney. The findings are negative.

CONTROL TEST WITH COPPER SULPHATE.

Two subjects were given a week's test with an amount of copper in the form of the sulphate, comparable with the amount ingested in the coppered vegetables. In both men, after the first days, the effects were nausea, malaise, distress in the stomach, metallic taste in the mouth, in one man vomiting. These symptoms conform closely to those known in toxicology as the effects of salts of copper. They are not met with in the use of coppered vegetables, with the amounts of copper at least that we have been able to secure in vegetables. It is apparent, however, that vegetables might be so heavily coppered as to present free copper. This would hardly be possible in the case of young peas, whose chlorophyll and protein content is large. But in the case of young string beans, and particularly in the case of asparagus, it might be possible to have them so heavily coppered as to leave free copper sulphate. The copper in combination is quite firmly combined, and the ion action of copper can not be manifested until the protein is digested. This is a slow process. In the case of the ingestion of copper sulphate, on the other hand, the maximum conditions for the manifestation of toxic

properties are afforded. But we can not doubt that the difference is quantitative and not qualitative.

A rather striking result in these two subjects was the effect upon the figure for nitrogen retention. In subject E. H. B. the nitrogen retention during a long control period was 1.2 grams daily. During the seven-day test with copper sulphate, the retention was but 0.7 gram per day. During the after period the retention rose again to 1.2 grams per day. In subject E. S. F. the nitrogen retention during a long control period was 1.8 grams per day. During the test period with copper sulphate this fell to 0.7 gram per day. During the after period this rose again to 1.4 grams per day. In the first subject there was a slight increase in the fecal nitrogen, which was not altered in the second subject. The increased output was in the form of urea.

SUMMARY.

The sole results that are *clinically* apparent in the subjects who ingested coppered vegetables in amount carrying up to 0.025 gram of copper per day were possibly slight disturbance of the alimentary tract in one; possibly a slight increase in unresorbed nitrogen in a second; and possibly a slight reduction in the retention of nitrogen in the same individual. These data are of very doubtful value. The important fact that has developed in these investigations is the retention of copper. In all the subjects there was retention of copper, varying from individual to individual; in one subject very high considering the dosage, in two marked, in others low. These data parallel those that have been obtained by Prof. Chittenden in animals. And, by analogy, we may infer that the retention was in the liver. By further analogy with lead and mercury, we may infer that a later redistribution may occur throughout the body. I do not believe such a retention of a heavy metal can be a negligible matter even in the complete absence of present symptoms referable thereto; the whole tenor of the pharmacology of the heavy metals is contrary to such an interpretation. It will be only safe to exclude the retention of a metal like copper from the body. The retention in the case of the subjects of this experiment followed ingestions of copper that could not be called large. And apparently such retention might be expected to follow any ingestion of coppered vegetables. Under these circumstances the ingestion of vegetables colored with copper constitutes a menace to health.

REPORT BY DR. ALFRED STENGEL.

My general observation was that, excepting for very moderate gastro-intestinal irritation on one or two occasions and not any more severe than might happen to other young men during a winter's work as students, and except for one or two mild acute infections

like tonsillitis, there were no untoward happenings. I can not say that anything that occurred could be attributed to poisonous or injurious ingredients in the diet. In one case one of the men suffered a little disturbance of digestion which I thought was due more to the quantity than the quality of the food he was taking at a time when he was under some stress in his college work. At my last examination I got the general impression that there was a tendency toward mild digestive disturbance in several of the men. This might have been attributable to something in their diet; or to the monotony of food and the strict regulation as to hours of eating, etc., which had become quite irksome to all of them. There are no data by which I can determine which of these possible causes was more likely to be the actual one. In either case, however, the effect was very slight, as none of the individuals showed very definite indications of digestive trouble.

No. 1 at my first inspection was found to be a normal young man, though the peripheral circulation was a little weak. The examination, however, was made on a cold raw day. On March 21, and up to March 27, he had some gastric disturbance, nausea, headache, and indigestion. He attributed this to his having rather more food than he was able to digest at the time, and I was practically of the same opinion. At the last examination, May 18, he had gained 2 to 3 pounds and was in general good condition, though there was a slight coating of the tongue.

No. 2 was a somewhat pale young man of a slender type, and at the first examination I noted some enlarged lymphatic glands in the neck; otherwise he was practically normal. He had two slight disturbances of digestion, with nausea and diarrhea, and complained that he had several times an alternation of diarrhea with constipation and rather constantly slight nausea. There was never any metallic taste. He gained 4 pounds in the course of the period of observation. There was a slight tendency to low temperature and slow pulse rate throughout. The note made at the last examination reads: "The impression I gather is that there has been a slight disturbance of his digestion without manifesting symptoms until now." He was then complaining of a little digestive disturbance and had a slightly coated white tongue and sallow color.

No. 3 was well at first examination. March 16 gave evidence of slight pharyngitis. At last examination reported himself as feeling better than at any time. Had had one attack of vomiting, which he attributed to constipation. Was well the next morning. No metallic taste. No change in weight.

No. 4 was normal at first examination. No disturbance throughout. Bowels regular. Gained 7 pounds in weight.

No. 5 was well at first examination. April 20 had a slight cold from exposure, sore throat, and temperature 100°. On account of

this dropped out for a few days from the squad. Subsequently, a second attack—the latter very mild. At the last examination was well. He had no nausea or gastric disturbance. Gained weight up to time of tonsillitis, then lost 5 pounds. Slight coating of tongue at the last examination.

No. 6 at first examination showed some moderate circulatory weakness. Cardio-pulmonary murmurish sound at base. Otherwise normal. March 14 had a slight attack of sore throat. Temperature 101. Recovered promptly. No further trouble. At last examination had gained 10 pounds. General appearance better. Heart and circulation O. K.

No. 7 normal at first examination. No disturbance throughout course. A little nausea and a mild attack of diarrhea on one occasion. No gain in weight. No metallic taste. No coating of tongue.

No. 8 had slight cyanosis of hands at first examination. Had two slight attacks of diarrhea which lasted a day. During course gained 7 pounds. General condition at the last examination good.

CHARTS OF DETAILED DATA.

CHART I.—*Diet.*

SUBJECT No. 1 (E. H. B.).

Food.	Sunday.	Monday.	Tuesday.	Wednes- day.	Thurs- day.	Friday.	Saturday
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Cream of wheat.....	15		15		15		15
Oatmeal.....		15		15		15	
Egg (number).....	1	1	1	1	1	1	1
Butter.....	65	65	65	65	65	65	65
Orange (number).....	1	1	1		1		1
Sliced bananas.....				60		60	
Cream.....	150	170	180	150	180	180	180
Bread.....	260	260	260	300	260	260	260
Jelly.....	35	35	35	35	35	35	35
Beef.....			140				140
Fowl.....	140			140			
Veal.....					140		
Lamb.....		140				140	
Peas.....	150	150	150	150	150	150	150
Beets.....		100					
Lima beans.....			180				
String beans.....					200		
Corn.....						200	
Celery.....	180						
Hominy.....				100			
Mashed or boiled potato.....	200	200			200	200	200
Sweet potato.....				180			
Rice—steamed.....							
Rice pudding.....		200					
Ice cream.....	200						
Water ice.....				200			
Peaches.....					400		
Peach juice.....					80		
Pears.....							400
Pear juice.....							80
Cherries.....						280	
Cherry juice.....						40	
Strawberries.....			200				
Strawberry juice.....			40				
Grape juice (c. c.).....	100	300					
Carbonated water (c. c.).....							
Water (c. c.).....							
Sugar.....	50	100					

CHART I.—*Diet*—Continued.

SUBJECT No. 1 —Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Mar. 1, 1911.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Mar. 5, 1911.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	15	0.38	0.070	.....	Cream of wheat....	15	0.30	0.017	.....
Egg.....	47.5	.98	.113	.....	Egg.....	46.5	.96	.110	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Sliced bananas.....	60	.11	.027	.....	Orange.....	90	.17	.024	.....
Cream.....	150	.57	.117	.....	Cream.....	150	.57	.110	.....
Bread.....	300	4.80	.251	.....	Bread.....	260	4.19	.257	.....
Jelly (grape).....	35	.01	.005	.....	Jelly (grape).....	35	.01	.005	.....
Fowl.....	140	3.99	.318	.....	Fowl.....	140	5.43	.328	.....
Peas.....	150	.84	.085	.....	Peas.....	150	.86	.096	.....
Hominy.....	100	.39	.013	.....	Celery.....	180	.31	.050	.....
Potato.....	180	.63	.113	.....	Potato.....	200	.78	.127	.....
Water ice.....	200	.02	.011	.....	Ice cream.....	200	.74	.145	.....
Grape juice (c. c.).....	225	.09	.015	.....	Grape juice (c. c.).....	250	.10	.017	.....
Water (c. c.).....	1,600	.....	.....	.....	Water (c. c.).....	1,550	.....	.....	.....
Sugar.....	100	.....	.....	.....	Sugar.....	84	.....	.....	.....
Total ¹	3,370	12.88	1.152	.....	Total.....	3,420	14.49	1.300	.....
<i>Mar. 2, 1911.</i>					<i>Mar. 6, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	50.6	1.04	.120	.....	Egg.....	47.5	.98	.113	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	115	.22	.031	.....	Orange.....	80	.15	.022	.....
Cream.....	180	.63	.145	.....	Cream.....	170	.63	.126	.....
Bread.....	260	3.95	.234	.....	Bread.....	260	4.19	.252	.....
Jelly (grape).....	35	.01	.005	.....	Jelly (grape).....	35	.01	.005	.....
Veal.....	140	5.26	.336	.....	Lamb.....	140	4.78	.313	.....
Peas.....	150	.87	.092	.....	Peas.....	150	.84	.094	.....
String beans.....	200	.48	.059	.....	Beets.....	100	.26	.077	.....
Potato.....	200	.72	.086	.....	Potato.....	200	.68	.122	.....
Peaches.....	400	.44	.070	.....	Rice pudding.....	200	1.36	.239	.....
Peach juice.....	80	.05	.011	.....	Grape juice (c. c.).....	325	.13	.022	.....
Grape juice (c. c.).....	225	.09	.015	.....	Water (c. c.).....	1,350	.....	.....	.....
Water (c. c.).....	1,650	.....	.....	.....	Sugar.....	114	.....	.....	.....
Sugar.....	86	.....	.....	.....	Total.....	3,250	14.46	1.469	.....
Total.....	3,850	14.13	1.235	.....	<i>Mar. 7, 1911.</i>				
<i>Mar. 3, 1911.</i>					Cream of wheat....	15	.30	.017	.....
Oatmeal.....	15	.38	.070	.....	Egg.....	52.6	1.08	.125	.....
Egg.....	55.6	1.14	.132	.....	Butter.....	65	.07	.014	.....
Butter.....	65	.07	.014	.....	Orange.....	82	.15	.022	.....
Sliced bananas.....	60	.11	.016	.....	Cream.....	180	.70	.137	.....
Cream.....	180	.74	.064	.....	Bread.....	260	4.32	.250	.....
Bread.....	260	4.24	.275	.....	Jelly (grape).....	35	.01	.005	.....
Jelly (grape).....	35	.01	.005	.....	Beef.....	140	4.87	.300	.....
Lamb.....	140	4.70	.331	.....	Peas.....	150	.84	.089	.....
Peas.....	150	.83	.098	.....	Lima beans.....	180	2.00	.178	.....
Corn.....	200	.74	.145	.....	Potato.....	200	.64	.131	.....
Potato.....	200	.70	.136	.....	Strawberries.....	200	.36	.058	.....
Cherries.....	290	.38	.057	.....	Strawberry juice.....	40	.01	.003	.....
Cherry juice.....	50	.04	.008	.....	Grape juice (c. c.).....	260	.08	.014	.....
Grape juice (c. c.).....	350	.14	.024	.....	Water (c. c.).....	1,100	.....	.....	.....
Water (c. c.).....	1,350	.....	.....	.....	Sugar.....	80	.....	.....	.....
Sugar.....	95	.....	.....	.....	Total.....	2,980	15.43	1.343	.....
Total.....	3,500	14.22	1.355	.....	<i>Mar. 8, 1911.</i>				
<i>Mar. 4, 1911.</i>					Oatmeal.....	15	.38	.070	.....
Cream of wheat....	15	.30	.017	.....	Egg.....	55.7	1.15	.132	.....
Egg.....	56.2	1.16	.133	.....	Butter.....	65	.07	.014	.....
Butter.....	65	.07	.014	.....	Sliced bananas.....	60	.12	.017	.....
Orange.....	70	.13	.019	.....	Cream.....	150	.57	.113	.....
Cream.....	180	.68	.138	.....	Bread.....	300	5.04	.309	.....
Bread.....	260	4.09	.297	.....	Jelly (grape).....	35	.01	.005	.....
Jelly (grape).....	35	.01	.005	.....	Fowl.....	140	5.49	.312	.....
Beef.....	140	5.15	.318	.....	Peas.....	150	.87	.093	.....
Peas.....	150	.89	.118	.....	Hominy.....	100	.37	.014	.....
Potato.....	200	.74	.162	.....	Sweet potato.....	180	.40	.075	.....
Rice, steamed.....	150	.50	.041	.....	Water ice.....	200	.02	.011	.....
Pears.....	400	.24	.050	.....	Grape juice (c. c.).....	200	.08	.014	.....
Pear juice.....	80	.02	.008	.....	Water (c. c.).....	1,200	.....	.....	.....
Grape juice (c. c.).....	300	.12	.020	.....	Sugar.....	70	.....	.....	.....
Water (c. c.).....	1,200	.....	.....	.....	Total.....	2,920	14.57	1.179	.....
Sugar.....	77	.....	.....	.....		
Total.....	3,380	14.10	1.340	.....				

¹In the totals, water in cubic centimeters is added as grams, and totals of ingesta rounded to terms of grams.

CHART I.—Diet—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 9, 1911.</i>					<i>Mar. 13, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Oatmeal.....	15	0.38	0.070	.....
Egg.....	56	1.15	.133	.....	Egg.....	60.8	1.25	.144	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	85	.16	.023	.....	Orange.....	80	.15	.022	.....
Cream.....	180	.70	.134	.....	Cream.....	17J	.63	.126	.....
Bread.....	260	4.35	.255	.....	Bread.....	260	4.32	.252	.....
Jelly (grape).....	35	.01	.005	.....	Jelly (grape).....	35	.01	.005	.....
Veal.....	140	5.00	.339	.....	Lamb.....	140	4.66	.290	.....
Peas.....	150	.78	.084	.....	Peas.....	150	.81	.083	.....
String beans.....	200	.54	.047	.....	Beets.....	100	.27	.086	.....
Boiled potato.....	200	.76	.127	.....	Mashed potato.....	200	.72	.124	.....
Peaches.....	400	.44	.070	.....	Rice pudding.....	200	1.44	.280	.....
Peach juice.....	80	.05	.011	.....	Grape juice (c. c.).....	250	.10	.017	.....
Grape juice (c. c.).....	290	.08	.014	.....	Water (c. c.).....	1,250	.....	.....	.....
Water (c. c.).....	1,450	.....	.....	.....	Sugar.....	110	.....	.....	.....
Sugar.....	105	.....	.....	.....		
Total.....	3,620	14.39	1.273	.....	Total.....	3,090	14.81	1.513	.....
<i>Mar. 10, 1911.</i>					<i>Mar. 14, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	15	.38	.070	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	54.5	1.12	.129	.....	Egg.....	51.8	1.07	.123	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Sliced bananas.....	60	.13	.015	.....	Orange.....	120	.23	.032	.....
Cream.....	180	.67	.134	.....	Cream.....	180	.68	.135	.....
Bread.....	260	4.39	.257	.....	Bread.....	260	4.32	.241	.....
Jelly (grape).....	35	.01	.005	.....	Jelly (currant, rasp- berry).....	35	.01	.003	.....
Lamb.....	140	4.66	.303	.....	Beef.....	140	4.73	.286	.....
Peas.....	150	.80	.080	.....	Peas.....	150	.81	.084	.....
Corn.....	200	.84	.136	.....	Lima beans.....	180	2.23	.184	.....
Potato.....	200	.82	.114	.....	Boiled potato.....	200	.68	.119	.....
Cherries.....	270	.36	.053	.....	Strawberries.....	200	.28	.058	.....
Cherry juice.....	30	.02	.005	.....	Strawberry juice.....	40	.01	.003	.....
Grape juice (c. c.).....	300	.12	.020	.....	Water (c. c.).....	1,400	.....	.....	.....
Water (c. c.).....	1,550	.....	.....	.....	Sugar.....	45	.....	.....	.....
Sugar.....	100	.....	.....	.....		
Total.....	3,610	14.39	1.340	.....	Total.....	3,080	15.42	1.299	.....
<i>Mar. 11, 1911.</i>					<i>Mar. 15, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	.30	.017	.....	Charcoal tablet.....	4	.....	.....	.....
Egg.....	52.5	1.08	.124	.....	Oatmeal.....	15	.38	.070	.....
Butter.....	65	.07	.014	.....	Egg.....	56.5	1.16	.134	.....
Orange.....	80	.15	.022	.....	Butter.....	65	.07	.014	.....
Cream.....	180	.70	.137	.....	Sliced bananas.....	60	.11	.022	.....
Bread.....	260	4.34	.250	.....	Cream.....	150	.56	.117	.....
Jelly (grape).....	35	.01	.005	.....	Bread.....	300	5.19	.286	.....
Beef.....	140	5.24	.300	.....	Jelly (currant, rasp- berry).....	35	.01	.003	.....
Peas.....	150	.81	.080	.....	Fowl.....	140	4.97	.300	.....
Potato.....	200	.76	.129	.....	Peas.....	150	1.14	.119	0.0171
Rice, steamed.....	150	.53	.030	.....	Hominy.....	100	.33	.011	.....
Pears.....	400	.24	.050	.....	Sweet potato.....	200	.50	.073	.....
Pear juice.....	80	.06	.003	.....	Water ice.....	200	.02	.011	.....
Grape juice (c. c.).....	300	.12	.020	.....	Grape juice (c. c.).....	250	.10	.017	.....
Water (c. c.).....	1,600	.....	.....	.....	Water (c. c.).....	1,300	.....	.....	.....
Sugar.....	100	.....	.....	.....	Sugar.....	75	.....	.....	.....
Total.....	3,810	14.41	1.186	.....	Total.....	3,100	14.54	1.177	.0171
<i>Mar. 12, 1911.</i>					<i>Mar. 16, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	.30	.017	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	49.5	1.02	.117	.....	Egg.....	60.5	1.25	.143	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	100	.19	.027	.....	Orange.....	105	.20	.028	.....
Cream.....	150	.54	.107	.....	Cream.....	180	.68	.140	.....
Bread.....	260	4.37	.259	.....	Bread.....	260	4.34	.241	.....
Jelly (grape).....	35	.01	.005	.....	Jelly (currant, rasp- berry).....	35	.01	.003	.....
Fowl.....	140	4.80	.290	.....	Veal.....	140	5.01	.318	.....
Peas.....	150	.81	.080	.....	Peas.....	150	1.11	.119	.0180
Celery.....	180	.25	.061	.....	String beans.....	200	.54	.056	.....
Boiled potato.....	200	.78	.133	.....	Boiled potato.....	200	.82	.121	.....
Ice cream.....	200	.74	.131	.....	Peaches.....	400	.44	.070	.....
Grape juice (c. c.).....	250	.10	.017	.....	Peach juice.....	80	.05	.011	.....
Water (c. c.).....	1,000	.....	.....	.....	Grape juice (c. c.).....	200	.08	.014	.....
Sugar.....	90	.....	.....	.....	Water (c. c.).....	1,300	.....	.....	.....
Total.....	2,890	13.98	1.258	.....	Sugar.....	70	.....	.....	.....
					Total.....	3,460	14.90	1.295	.0180

1 Use of coppered peas begins on this date.

CHART I.—Diet—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 17, 1911.</i>					<i>Mar. 20, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	15	0.38	0.070	.....	Water (c. c.).....	1,250	.....	.....	.....
Egg.....	55.4	1.14	.131	.....	Sugar.....	85	.....	.....	.....
Butter.....	65	.07	.014	.....	Total.....	3,030	15.50	1.450	0.0165
Sliced bananas.....	60	.14	.013	.....	<i>Mar. 21, 1911.</i>				
Cream.....	180	.68	.135	.....	Cream of wheat.....	15	.30	.017	.....
Bread.....	260	4.32	.238	.....	Egg.....	60.5	1.25	.143	.....
Jelly (apple).....	35	.....	.002	.....	Butter.....	65	.07	.014	.....
Lamb.....	140	4.59	.294	.....	Orange.....	95	.18	.026	.....
Peas.....	150	1.11	.130	0.0191	Cream.....	180	.74	.143	.....
Corn.....	200	.66	.124	.....	Bread.....	260	4.37	.236	.....
Mashed potato.....	200	.72	.143	.....	Jelly (apple).....	35	.....	.002	.....
Cherries.....	290	.38	.057	.....	Beef.....	140	5.50	.300	.....
Cherry juice.....	60	.04	.010	.....	Peas.....	150	1.14	.123	.0179
Grape juice (c. c.)..	200	.08	.014	.....	Lima beans.....	180	2.29	.181	.....
Water (c. c.).....	1,500	.....	.....	.....	Boiled potato.....	200	.70	.140	.....
Sugar.....	85	.....	.....	.....	Strawberries.....	200	.42	.058	.....
Total.....	3,500	14.31	1.375	.0191	Strawberry juice.....	40	.01	.003	.....
<i>Mar. 18, 1911.</i>					Grape juice (c. c.)..	300	.12	.020	.....
Cream of wheat.....	15	.30	.017	.....	Water (c. c.).....	1,500	.....	.....	.....
Egg.....	54.5	1.12	.129	.....	Sugar.....	105	.....	.....	.....
Butter.....	65	.07	.014	.....	Total.....	3,530	17.09	1.406	.0179
Orange.....	95	.18	.026	.....	<i>Mar. 22, 1911.</i>				
Cream.....	180	.67	.135	.....	Oatmeal.....	15	.38	.070	.....
Bread.....	260	4.16	.238	.....	Egg.....	53	1.09	.126	.....
Jelly (apple).....	35	.....	.002	.....	Butter.....	65	.07	.014	.....
Beef.....	140	5.10	.286	.....	Sliced bananas.....	60	.12	.013	.....
Peas.....	150	1.04	.119	.0164	Cream.....	150	.62	.113	.....
Potato.....	200	.64	.119	.....	Bread.....	300	5.13	.267	.....
Rice, steamed.....	150	.41	.048	.....	Jelly (apple).....	35	.....	.002	.....
Pears.....	400	.24	.050	.....	Fowl.....	140	5.40	.274	.....
Pear juice.....	80	.02	.008	.....	Peas.....	150	1.11	.128	.0165
Grape juice (c. c.)..	200	.08	.014	.....	Hominy.....	100	.38	.011	.....
Water (c. c.).....	1,250	.....	.....	.....	Sweet potato.....	200	.50	.079	.....
Sugar.....	85	.....	.....	.....	Water ice.....	200	.02	.011	.....
Total.....	3,300	14.03	1.203	.0164	Grape juice (c. c.)..	250	.10	.017	.....
<i>Mar. 19, 1911.</i>					Water (c. c.).....	1,350	.....	.....	.....
Cream of wheat.....	15	.30	.017	.....	Sugar.....	80	.....	.....	.....
Egg.....	53.5	1.10	.127	.....	Total.....	3,150	14.92	1.125	.0165
Butter.....	65	.07	.014	.....	<i>Mar. 23, 1911.¹</i>				
Orange.....	105	.20	.028	.....	Cream of wheat.....	15	.30	.017	.....
Cream.....	150	.57	.113	.....	Egg.....	50.5	1.04	.120	.....
Bread.....	260	4.32	.234	.....	Butter.....	30	.03	.007	.....
Jelly (currant).....	35	.01	.003	.....	Orange.....	90	.17	.024	.....
Fowl.....	140	5.28	.284	.....	Cream.....	50	.18	.035	.....
Peas.....	150	1.16	.125	.0168	Bread.....	80	1.30	.074	.....
Celery.....	180	.34	.088	.....	Jelly (currant).....	25	.01	.002	.....
Boiled potato.....	200	.74	.145	.....	Water (c. c.).....	300	.....	.....	.....
Ice cream.....	200	.75	.143	.....	Sugar.....	40	.....	.....	.....
Grape juice (c. c.)..	210	.08	.014	.....	Total.....	680	3.03	.279	.....
Water (c. c.).....	1,200	.....	.....	.....	<i>Mar. 28, 1911.</i>				
Sugar.....	100	.....	.....	.....	Cream of wheat.....	15	.30	.017	.....
Total.....	3,060	14.93	1.335	.0168	Egg.....	53.8	1.11	.127	.....
<i>Mar. 20, 1911.</i>					Butter.....	65	.07	.014	.....
Oatmeal.....	15	.38	.070	.....	Orange.....	75	.14	.020	.....
Egg.....	52.3	1.08	.124	.....	Cream.....	150	.57	.113	.....
Butter.....	65	.07	.014	.....	Bread.....	200	3.36	.190	.....
Orange.....	105	.20	.028	.....	Jelly (currant).....	35	.01	.003	.....
Cream.....	170	.66	.120	.....	Beef.....	110	4.33	.233	.....
Bread.....	260	4.39	.234	.....	Peas.....	150	.84	.086	.....
Jelly (currant).....	35	.01	.003	.....	Lima beans.....	120	1.55	.111	.....
Lamb.....	140	4.79	.294	.....	Boiled potato.....	180	.54	.113	.....
Peas.....	150	1.14	.125	.0165	Strawberries.....	180	.25	.053	.....
Beets.....	100	.42	.064	.....	Strawberry juice.....	20	.....	.001	.....
Mashed potato.....	200	.64	.098	.....				
Rice pudding.....	200	1.64	.253	.....				
Grape juice (c. c.)..	200	.08	.014	.....				

¹ Did not have lunch and supper; had MgSO₄, 2 teaspoonful, instead.

CHART I.—Diet—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 28, 1911—Con.</i>					<i>Apr. 1, 1911—Con.</i>				
<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	
Grape juice (c. c.)..	200	0.08	0.014	.....	Bread.....	200	2.96	0.169	.....
Water (c. c.).....	950				Jelly (apple).....	35	.01	.002	.....
Sugar.....	75				Beef.....	140	5.53	.300	.....
Total.....	2,580	13.15	1.095	.....	Peas.....	150	.81	.083	.....
<i>Mar. 29, 1911.</i>					Boiled potato.....	180	.63	.082	.....
Oatmeal.....	15	.38	.070	.....	Rice, steamed.....	130	.36	.025	.....
Egg.....	57	1.17	.135	.....	Peas.....	330	.20	.041	.....
Butter.....	65	.07	.014	.....	Pear juice.....	40	.01	.004	.....
Sliced bananas.....	60	.14	.012	.....	Grape juice (c. c.)..	150	.06	.010	.....
Cream.....	100	.41	.077	.....	Water (c. c.).....	950			.....
Bread.....	220	3.78	.204	.....	Sugar.....	90			.....
Jelly (apple).....	35		.002	.....	Total.....	2,740	12.66	.999	.....
Fowl.....	110	4.20	.236	.....	<i>Apr. 2, 1911.</i>				
Peas.....	150	.78	.081	.....	Cream of wheat.....	15	.30	.017	.....
Hominy.....	80	.31	.011	.....	Egg.....	51	1.05	.121	.....
Sweet potato.....	150	.33	.056	.....	Butter.....	65	.07	.014	.....
Water ice.....	180	.02	.010	.....	Orange.....	110	.21	.030	.....
Grape juice (c. c.)..	100	.04	.007	.....	Cream.....	100	.38	.076	.....
Water (c. c.).....	900			.....	Bread.....	220	3.43	.198	.....
Sugar.....	55			.....	Jelly (grape).....	35	.01	.005	.....
Total.....	2,280	11.63	.015	.....	Fowl.....	120	4.51	.241	.....
<i>Mar. 30, 1911.</i>					Peas.....	150	.83	.088	.....
Cream of wheat.....	15	.30	.017	.....	Celery.....	120	.20	.037	.....
Egg.....	48	.99	.114	.....	Boiled potato.....	180	.58	.121	.....
Butter.....	65	.07	.014	.....	Ice cream.....	220	.79	.158	.....
Orange.....	90	.17	.024	.....	Grape juice (c. c.)..	150	.06	.010	.....
Cream.....	150	.56	.114	.....	Water (c. c.).....	900			.....
Bread.....	200	3.20	.175	.....	Sugar.....	85			.....
Jelly (apple).....	35		.002	.....	Total.....	2,520	12.42	1.116	.....
Veal.....	110	3.99	.266	.....	<i>Apr. 3, 1911.</i>				
Peas.....	150	.83	.084	.....	Oatmeal.....	15	.38	.070	.....
String beans.....	160	.43	.043	.....	Egg.....	53	1.09	.126	.....
Boiled potato.....	180	.52	.124	.....	Butter.....	65	.07	.014	.....
Peaches.....	350	.39	.061	.....	Orange.....	105	.20	.028	.....
Peach juice.....	50	.03	.007	.....	Cream.....	150	.59	.111	.....
Grape juice (c. c.)..	150	.06	.010	.....	Bread.....	200	3.18	.182	.....
Water (c. c.).....	1,200			.....	Jelly (grape).....	45	.02	.007	.....
Sugar.....	70			.....	Lamb.....	110	4.44	.254	.....
Total.....	3,020	11.54	1.055	.....	Peas.....	150	.81	.079	.....
<i>Mar. 31, 1911.</i>					Beets.....	50	.12	.021	.....
Oatmeal.....	15	.38	.070	.....	Mashed potato.....	180	.52	.105	.....
Egg.....	53.5	1.10	.127	.....	Rice pudding.....	200	1.30	.217	.....
Butter.....	65	.07	.014	.....	Grape juice (c. c.)..	150	.06	.010	.....
Orange.....	85	.16	.023	.....	Water (c. c.).....	1,000			.....
Cream.....	150	.54	.117	.....	Sugar.....	85			.....
Bread.....	200	3.12	.187	.....	Total.....	2,560	12.78	1.224	.....
Jelly (currant).....	35	.01	.003	.....	<i>Apr. 4, 1911.</i>				
Lamb.....	110	3.97	.231	.....	Cream of wheat.....	15	.30	.017	.....
Peas.....	150	.80	.080	.....	Egg.....	53.5	1.10	.127	.....
Corn.....	130	.47	.085	.....	Butter.....	65	.07	.014	.....
Mashed potato.....	180	.50	.108	.....	Orange.....	120	.23	.032	.....
Cherries.....	280	.37	.055	.....	Cream.....	150	.59	.113	.....
Cherry juice.....	50	.04	.008	.....	Bread.....	200	3.28	.185	.....
Grape juice (c. c.)..	150	.06	.010	.....	Jelly (apple).....	35		.002	.....
Water (c. c.).....	1,100			.....	Beef.....	110	4.48	.236	.....
Sugar.....	90			.....	Peas.....	150	.80	.086	.....
Total.....	2,870	11.59	1.118	.....	Lima beans.....	120	1.64	.132	.....
<i>Apr. 1, 1911.</i>					Boiled potato.....	180	.50	.108	.....
Cream of wheat.....	15	.30	.017	.....	Strawberries.....	180	.29	.053	.....
Egg.....	50.9	1.05	.121	.....	Strawberry juice.....	20		.001	.....
Butter.....	65	.07	.014	.....	Water (c. c.).....	950			.....
Sliced bananas.....	60	.10	.020	.....	Sugar.....	55			.....
Cream.....	150	.57	.110	.....	Total.....	2,400	13.28	1.106	.....

CHART I.—Diet—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 5, 1911.</i>					<i>Apr. 9, 1911.</i>				
Oatmeal.....	<i>Grams.</i> 15	<i>Grams.</i> 0.38	<i>Grams.</i> 0.070	<i>Gram.</i>	Cream of wheat....	<i>Grams.</i> 15	<i>Grams.</i> 0.30	<i>Grams.</i> 0.017	<i>Gram</i>
Egg.....	51.8	1.07	.123	.....	Egg.....	54.5	1.12	.129	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Sliced bananas.....	60	.11	.016	.....	Orange.....	105	.20	.028	.....
Cream.....	100	.35	.075	.....	Cream.....	100	.40	.076	.....
Bread.....	220	3.63	.196	.....	Bread.....	220	3.61	.200	.....
Jelly (currant).....	35	.01	.003	.....	Jelly (currant).....	35	.....	.002	.....
Fowl.....	110	4.17	.238	.....	Fowl.....	120	4.26	.250	.....
Peas.....	200	1.08	.115	.....	Peas.....	200	1.24	.117	.....
Hominy.....	80	.30	.008	.....	Celery.....	120	.14	.043	.....
Sweet potato.....	150	.26	.064	.....	Boiled potato.....	180	.43	.115	.....
Water ice.....	180	.02	.010	.....	Ice cream.....	220	.81	.160	.....
Grape juice (c. c.).....	150	.06	.010	.....	Grape juice (c. c.).....	150	.06	.010	.....
Water (c. c.).....	1,050	.....	.....	.....	Water (c. c.).....	850	.....	.....	.....
Sugar.....	65	.....	.....	.....	Sugar.....	75	.....	.....	.....
Total.....	2,530	11.51	.942	.....	Total.....	2,510	12.64	1.161	.....
<i>Apr. 6, 1911.</i>					<i>Apr. 10, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	54.5	1.12	.129	.....	Egg.....	56.5	1.16	.134	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	105	.20	.028	.....	Orange.....	100	.19	.027	.....
Cream.....	150	.57	.113	.....	Cream.....	150	.56	.107	.....
Bread.....	200	3.00	.182	.....	Bread.....	200	2.96	.175	.....
Jelly (quince).....	35	.....	.002	.....	Jelly (apple).....	45	.....	.002	.....
Veal.....	110	4.04	.252	.....	Lamb.....	110	4.10	.236	.....
Peas.....	200	1.08	.119	.....	Peas.....	200	1.06	.122	.....
String beans.....	160	.43	.041	.....	Beets.....	50	.17	.023	.....
Boiled potato.....	180	.67	.075	.....	Mashed potato.....	180	.59	.108	.....
Peaches.....	350	.39	.061	.....	Rice pudding.....	200	1.20	.213	.....
Peach juice.....	50	.03	.007	.....	Grape juice (c. c.).....	150	.06	.010	.....
Grape juice (c. c.).....	150	.06	.010	.....	Water (c. c.).....	1,100	.....	.....	.....
Water (c. c.).....	1,500	.....	.....	.....	Sugar.....	80	.....	.....	.....
Sugar.....	95	.....	.....	.....	Total.....	2,700	12.50	1.241	.....
Total.....	3,420	11.96	1.050	.....	<i>Apr. 11, 1911.</i>				
<i>Apr. 7, 1911.</i>					Cream of wheat....	15	.30	.017	.....
Oatmeal.....	15	.38	.070	.....	Egg.....	54.3	1.12	.129	.....
Egg.....	49.5	1.02	.117	.....	Butter.....	65	.07	.014	.....
Butter.....	65	.07	.014	.....	Orange.....	105	.20	.028	.....
Sliced bananas.....	60	.14	.018	.....	Cream.....	150	.57	.110	.....
Cream.....	150	.53	.114	.....	Bread.....	200	3.28	.190	.....
Bread.....	200	3.46	.189	.....	Jelly (grape).....	35	.01	.005	.....
Jelly (apple).....	35	.....	.002	.....	Beef.....	110	4.07	.231	.....
Lamb.....	110	3.96	.233	.....	Peas.....	200	1.08	.119	.....
Peas.....	200	1.18	.117	.....	Lima beans.....	120	1.52	.122	.....
Corn.....	130	.47	.091	.....	Boiled potato.....	180	.68	.107	.....
Mashed potato.....	180	.54	.115	.....	Strawberries.....	180	.31	.053	.....
Cherries.....	280	.37	.055	.....	Strawberry juice.....	20	.....	.001	.....
Cherry juice.....	50	.04	.008	.....	Grape juice (c. c.).....	175	.07	.012	.....
Grape juice (c. c.).....	150	.06	.010	.....	Water (c. c.).....	950	.....	.....	.....
Water (c. c.).....	1,200	.....	.....	.....	Sugar.....	85	.....	.....	.....
Sugar.....	85	.....	.....	.....	Total.....	2,650	13.28	1.138	.....
Total.....	2,960	12.22	1.153	.....	<i>Apr. 12, 1911.</i>				
<i>Apr. 8, 1911.</i>					Oatmeal.....	15	.38	.070	.....
Cream of wheat....	15	.30	.017	.....	Egg.....	53.4	1.10	.127	.....
Egg.....	45.5	.94	.108	.....	Butter.....	65	.07	.014	.....
Butter.....	65	.07	.014	.....	Sliced bananas.....	60	.11	.023	.....
Orange.....	70	.13	.019	.....	Cream.....	100	.38	.077	.....
Cream.....	150	.57	.111	.....	Bread.....	220	3.43	.209	.....
Bread.....	200	3.16	.178	.....	Jelly (apple).....	35	.....	.002	.....
Jelly (quince).....	35	.....	.002	.....	Fowl.....	110	4.04	.228	.....
Beef.....	140	5.46	.370	.....	Peas.....	200	1.20	.117	.....
Peas.....	200	1.10	.119	.....	Hominy.....	80	.33	.011	.....
Boiled potato.....	180	.59	.127	.....	Sweet potato.....	150	.24	.077	.....
Rice, steamed.....	130	.53	.042	.....	Water ice.....	180	.02	.010	.....
Pears.....	330	.20	.041	.....	Grape juice (c. c.).....	150	.06	.010	.....
Pear juice.....	40	.01	.004	.....	Water (c. c.).....	950	.....	.....	.....
Grape juice (c. c.).....	150	.06	.010	.....	Sugar.....	90	.....	.....	.....
Water (c. c.).....	1,100	.....	.....	.....	Total.....	2,460	11.36	.975	.....
Sugar.....	90	.....	.....	.....		
Total.....	2,940	13.12	1.092	.....				

CHART I.—Diet—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 13, 1911.</i>					<i>Apr. 17, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Oatmeal.....	15	0.38	0.070	.....
Egg.....	57.5	1.18	.136	.....	Egg.....	47	.97	.111	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	120	.23	.032	.....	Orange.....	120	.23	.032	.....
Cream.....	150	.56	.114	.....	Cream.....	150	.57	.113	.....
Bread.....	200	3.36	.183	.....	Bread.....	200	3.10	.183	.....
Jelly (grape).....	35	.01	.005	.....	Jelly (quince).....	45	.....	.003	.....
Veal.....	110	4.19	.250	.....	Lamb.....	110	4.48	.260	.....
Peas.....	200	1.12	.122	.....	Peas.....	200	1.04	.124	.....
String beans.....	160	.43	.042	.....	Beets.....	50	.15	.034	.....
Boiled potato.....	180	.41	.090	.....	Mashed potato.....	180	.67	.130	.....
Peaches.....	350	.39	.061	.....	Rice pudding.....	200	1.10	.220	.....
Peach juice.....	50	.03	.007	.....	Grape juice (c. c.)..	150	.06	.010	.....
Grape juice (c. c.)..	150	.06	.010	.....	Water (c. c.).....	1,000	.....	.....	.....
Water (c. c.).....	1,000	.....	.....	.....	Sugar.....	85	.....	.....	.....
Sugar.....	85	.....	.....	.....		
Total.....	2,930	12.34	1.083	.....	Total.....	2,620	12.82	1.304	.....
<i>Apr. 14, 1911.</i>					<i>Apr. 18, 1911.</i>				
Oatmeal.....	15	.38	.070	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	44.2	.91	.105	.....	Egg.....	50.5	1.04	.120	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Sliced bananas.....	60	.11	.017	.....	Orange.....	130	.25	.035	.....
Cream.....	150	.65	.119	.....	Cream.....	150	.56	.114	.....
Bread.....	200	3.26	.187	.....	Bread.....	200	3.24	.192	.....
Jelly (grape).....	35	.01	.005	.....	Jelly (currant).....	35	.....	.003	.....
Lamb.....	110	3.66	.228	.....	Beef.....	110	4.02	.235	.....
Peas.....	200	1.08	.119	.....	Peas.....	200	1.24	.124	.....
Corn.....	130	.52	.034	.....	Lima beans.....	120	1.58	.135	.....
Mashed potato.....	180	.56	.105	.....	Boiled potato.....	180	.70	.085	.....
Cherries.....	280	.37	.055	.....	Strawberries.....	180	.38	.053	.....
Cherry juice.....	50	.04	.008	.....	Strawberry juice....	20	.....	.001	.....
Grape juice (c. c.)..	150	.06	.010	.....	Grape juice (c. c.)..	150	.06	.010	.....
Water (c. c.).....	950	.....	.....	.....	Water (c. c.).....	1,000	.....	.....	.....
Sugar.....	75	.....	.....	.....	Sugar.....	80	.....	.....	.....
Total.....	2,690	11.68	1.126	.....	Total.....	2,690	13.44	1.138	.....
<i>Apr. 16, 1911.</i>					<i>Apr. 19, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	43.5	.90	.103	.....	Egg.....	51.5	1.06	.122	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	120	.23	.032	.....	Sliced bananas.....	60	.10	.017	.....
Cream.....	150	.59	.114	.....	Cream.....	100	.39	.078	.....
Bread.....	200	3.28	.190	.....	Bread.....	220	3.45	.196	.....
Jelly (grape).....	35	.01	.005	.....	Jelly (apple).....	35	.....	.002	.....
Beef.....	140	5.60	.312	.....	Fowl.....	110	3.94	.235	.....
Peas.....	200	1.12	.122	.....	Peas.....	200	.98	.114	.....
Potato.....	180	.52	.105	.....	Hominy.....	80	.34	.010	.....
Rice, steamed.....	130	.47	.035	.....	Sweet potato.....	150	.33	.090	.....
Pears.....	330	.20	.041	.....	Water ice.....	180	.02	.010	.....
Pear juice.....	40	.01	.004	.....	Grape juice (c. c.)..	150	.06	.010	.....
Grape juice (c. c.)..	150	.06	.010	.....	Water (c. c.).....	850	.....	.....	.....
Water (c. c.).....	900	.....	.....	.....	Sugar.....	65	.....	.....	.....
Sugar.....	80	.....	.....	.....		
Total.....	2,780	13.35	1.104	.....	Total.....	2,330	11.12	.968	.....
<i>Apr. 16, 1911.</i>					<i>Apr. 20, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	54	1.11	.128	.....	Egg.....	49.5	1.02	.117	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	135	.26	.036	.....	Orange.....	80	.15	.022	.....
Cream.....	100	.35	.076	.....	Cream.....	150	.54	.109	.....
Bread.....	220	3.54	.215	.....	Bread.....	200	3.08	.187	.....
Jelly (apple).....	35	.....	.002	.....	Jelly (grape).....	35	.01	.005	.....
Fowl.....	120	4.44	.255	.....	Veal.....	100	3.54	.240	.....
Peas.....	200	1.02	.107	.....	Peas.....	300	1.65	.181	.....
Celery.....	120	.18	.037	.....	String beans.....	100	.30	.034	.....
Boiled potato.....	180	.43	.091	.....	Boiled potato.....	140	.34	.086	.....
Ice cream.....	220	.79	.163	.....	Peaches.....	350	.39	.061	.....
Grape juice (c. c.)..	150	.06	.010	.....	Peach juice.....	50	.03	.007	.....
Water (c. c.).....	1,200	.....	.....	.....	Grape juice (c. c.)..	200	.08	.014	.....
Sugar.....	75	.....	.....	.....	Water (c. c.).....	850	.....	.....	.....
Total.....	2,890	12.55	1.151	.....	Sugar.....	60	.....	.....	.....
					Total.....	2,750	11.50	1.094	.....

CHART I.—Diet—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Apr. 21, 1911.</i>					<i>Apr. 25, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	15	0.38	0.070	.....	Cream of wheat.....	15	0.30	0.017	.....
Egg.....	54.5	1.12	.129	.....	Egg.....	54.5	1.12	.128	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Sliced bananas.....	60	.12	.013	.....	Orange.....	105	.20	.028	.....
Cream.....	150	.51	.110	.....	Cream.....	150	.56	.111	.....
Bread.....	180	2.84	.173	.....	Bread.....	180	2.95	.174	.....
Jelly (quince).....	40	.....	.002	.....	Jelly (apple).....	40	.....	.002	.....
Lamb.....	100	3.52	.223	.....	Beef.....	100	3.55	.219	.....
Peas.....	300	1.56	.191	.....	Peas.....	300	1.74	.170	.....
Corn.....	100	.40	.071	.....	Lima beans.....	100	1.28	.112	.....
Mashed potato.....	140	.36	.078	.....	Potato.....	140	.51	.088	.....
Cherries.....	240	.31	.048	.....	Strawberries.....	180	.38	.053	.....
Cherry juice.....	30	.02	.005	.....	Strawberry juice.....	20	.....	.001	.....
Grape juice (c. c.).....	150	.06	.010	.....	Grape juice (c. c.).....	150	.06	.010	.....
Water (c. c.).....	900	.....	.....	.....	Water (c. c.).....	850	.....	.....	.....
Sugar.....	65	.....	.....	.....	Sugar.....	75	.....	.....	.....
Total.....	2,590	11.27	1.137	.....	Total.....	2,530	12.72	1.127	.....
<i>Apr. 22, 1911.</i>					<i>Apr. 26, 1911</i>				
Cream of wheat.....	15	.30	.017	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	53.5	1.10	.127	.....	Egg.....	51.5	1.06	.122	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	95	.18	.026	.....	Sliced bananas.....	60	.11	.020	.....
Cream.....	150	.50	.110	.....	Cream.....	100	.39	.077	.....
Bread.....	180	2.88	.171	.....	Bread.....	200	3.02	.187	.....
Jelly (currant).....	35	.01	.003	.....	Jelly (grape).....	40	.02	.006	.....
Beef.....	100	3.89	.210	.....	Fowl.....	110	4.02	.238	.....
Peas.....	300	1.56	.162	.....	Peas.....	300	1.59	.186	.....
Boiled potato.....	140	.35	.084	.....	Hominy.....	100	.38	.014	.....
Rice (steamed).....	100	.34	.030	.....	Sweet potato.....	100	.30	.057	.....
Pears.....	350	.21	.044	.....	Water ice.....	160	.02	.009	.....
Pear juice.....	50	.02	.005	.....	Grape juice (c. c.).....	150	.06	.010	.....
Grape juice (c. c.).....	100	.04	.007	.....	Water (c. c.).....	850	.....	.....	.....
Water (c. c.).....	1,100	.....	.....	.....	Sugar.....	65	.....	.....	.....
Sugar.....	60	.....	.....	.....	Total.....	2,370	11.42	1.010	.....
Total.....	2,890	11.45	1.010	.....	<i>Apr. 27, 1911.</i>				
Cream of wheat.....	15	.30	.017	.....	Cream of wheat.....	15	.30	.017	.....
Egg.....	49.5	1.02	.117	.....	Egg.....	52.5	1.08	.124	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	105	.20	.028	.....	Orange.....	110	.21	.030	.....
Cream.....	100	.36	.073	.....	Cream.....	150	.56	.114	.....
Bread.....	180	2.84	.165	.....	Bread.....	200	3.10	.197	.....
Jelly (quince).....	40	.....	.002	.....	Jelly (quince).....	35	.....	.002	.....
Fowl.....	100	3.59	.207	.....	Veal.....	100	3.71	.236	.....
Peas.....	300	1.65	.173	.....	Peas.....	300	1.59	.183	.....
Celery.....	100	.15	.028	.....	String beans.....	100	.30	.031	.....
Boiled potato.....	140	.39	.070	.....	Boiled potato.....	140	.36	.076	.....
Ice cream.....	220	.79	.154	.....	Peaches.....	350	.39	.061	.....
Grape juice (c. c.).....	100	.04	.007	.....	Peach juice.....	50	.03	.007	.....
Water (c. c.).....	1,000	.....	.....	.....	Grape juice (c. c.).....	200	.08	.014	.....
Sugar.....	55	.....	.....	.....	Water (c. c.).....	1,050	.....	.....	.....
Total.....	2,570	11.40	1.055	.....	Sugar.....	60	.....	.....	.....
					Total.....	2,980	11.78	1.106	.....
<i>Apr. 24, 1911.</i>					<i>Apr. 28, 1911.</i>				
Oatmeal.....	15	.38	.070	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	50.2	1.03	.119	.....	Egg.....	48.2	.99	.114	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	120	.23	.032	.....	Sliced bananas.....	60	.13	.015	.....
Cream.....	150	.57	.115	.....	Cream.....	150	.59	.119	.....
Bread.....	180	2.59	.170	.....	Bread.....	180	2.88	.174	.....
Jelly (currant).....	35	.01	.003	.....	Jelly (apple).....	40	.....	.002	.....
Lamb.....	100	3.51	.216	.....	Lamb.....	100	3.74	.216	.....
Peas.....	300	1.56	.178	.....	Peas.....	300	1.71	.181	.....
Beets.....	50	.10	.031	.....	Corn.....	100	.43	.070	.....
Mashed potato.....	140	.32	.081	.....	Mashed potato.....	140	.46	.084	.....
Rice pudding.....	200	1.24	.210	.....	Cherries.....	240	.32	.048	.....
Grape juice (c. c.).....	200	.08	.014	.....	Cherry juice.....	30	.02	.005	.....
Water (c. c.).....	1,100	.....	.....	.....	Grape juice (c. c.).....	150	.06	.010	.....
Sugar.....	65	.....	.....	.....	Water (c. c.).....	800	.....	.....	.....
Total.....	2,770	11.69	1.253	.....	Sugar.....	75	.....	.....	.....
					Total.....	2,490	11.78	1.122	.....

CHART I.—*Diet*—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 29, 1911.</i>					<i>May 3, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Oatmeal.....	15	0.38	0.070	.....
Egg.....	48.5	1.00	.115	.....	Egg.....	57.5	1.18	.136	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	140	.27	.038	.....	Sliced bananas....	60	.11	.024	.....
Cream.....	150	.56	.111	.....	Cream.....	100	.38	.076	.....
Bread.....	180	2.93	.173	.....	Bread.....	200	3.40	.187	.....
Jelly (apple).....	35	.....	.002	.....	Jelly (currant)....	40	.02	.003	.....
Beef.....	100	3.85	.207	.....	Fowl.....	100	3.62	.216	.....
Peas.....	300	1.65	.186	.....	Peas.....	300	1.59	.189	.....
Boiled potato.....	140	.36	.080	.....	String beans.....	150	.44	.055	.....
Rice, steamed.....	100	.32	.025	.....	Sweet potato.....	50	.09	.021	.....
Pears.....	350	.21	.044	.....	Water ice.....	140	.01	.008	.....
Pear juice.....	50	.02	.005	.....	Grape juice (c. c.)	150	.06	.010	.....
Grape juice (c. c.)	300	.12	.020	.....	Water (c. c.).....	900	.....	.....	.....
Water (c. c.).....	700	.....	.....	.....	Sugar.....	70	.....	.....	.....
Sugar.....	85	.....	.....	.....		
Total.....	2,760	11.66	1.037	.....	Total.....	2,400	11.35	1.009	.....
<i>Apr. 30, 1911.</i>					<i>May 4, 1911</i>				
Cream of wheat....	15	.30	.017	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	48.5	1.00	.115	.....	Egg.....	52	1.07	.123	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	150	.29	.041	.....	Orange.....	185	.35	.050	.....
Cream.....	100	.38	.077	.....	Cream.....	150	.57	.109	.....
Bread.....	180	2.92	.171	.....	Bread.....	180	2.66	.163	.....
Jelly (apple).....	40	.....	.002	.....	Jelly (currant)....	35	.01	.003	.....
Fowl.....	100	3.72	.212	.....	Veal.....	100	3.72	.242	.....
Peas.....	300	1.56	.162	.....	Peas.....	300	1.56	.186	.....
Celery.....	100	.12	.027	.....	String beans.....	150	.47	.060	.....
Boiled potato.....	140	.46	.081	.....	Boiled potato.....	120	.32	.066	.....
Ice cream.....	220	.81	.154	.....	Peaches.....	380	.42	.067	.....
Grape juice (c. c.)	100	.04	.007	.....	Peach juice.....	20	.01	.003	.....
Water (c. c.).....	800	.....	.....	.....	Grape juice (c. c.)	100	.04	.007	.....
Sugar.....	60	.....	.....	.....	Water (c. c.).....	800	.....	.....	.....
Total.....	2,420	11.67	1.080	.....	Sugar.....	55	.....	.....	.....
					Total.....	2,710	11.57	1.110	.....
<i>May 1, 1911.</i>					<i>May 5, 1911.</i>				
Oatmeal.....	15	.38	.070	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	50	1.03	.118	.....	Egg.....	51.5	1.06	.122	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	145	.28	.039	.....	Sliced bananas....	60	.12	.016	.....
Cream.....	150	.56	.117	.....	Cream.....	150	.60	.114	.....
Bread.....	180	2.75	.178	.....	Bread.....	180	3.17	.170	.....
Jelly (currant)....	35	.01	.003	.....	Jelly (apple).....	40	.....	.002	.....
Lamb.....	100	3.60	.223	.....	Lamb.....	100	3.62	.225	.....
Peas.....	300	1.59	.176	.....	Peas.....	300	1.62	.183	.....
Beets.....	50	.14	.026	.....	String beans.....	150	.42	.059	.....
Mashed potato.....	140	.43	.078	.....	Mashed potato.....	120	.40	.069	.....
Rice pudding.....	200	2.31	.220	.....	Peaches.....	380	.42	.067	.....
Grape juice (c. c.)	200	.08	.014	.....	Peach juice.....	20	.01	.003	.....
Water (c. c.).....	850	.....	.....	.....	Grape juice (c. c.)	150	.06	.010	.....
Sugar.....	75	.....	.....	.....	Water (c. c.).....	900	.....	.....	.....
Total.....	2,560	13.23	1.276	.....	Sugar.....	80	.....	.....	.....
					Total.....	2,760	11.95	1.124	.....
<i>May 2, 1911.</i>					<i>May 6, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	55.5	1.14	.132	.....	Egg.....	57	1.17	.135	.....
Butter.....	65.5	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	170	.32	.046	.....	Orange.....	135	.26	.036	.....
Cream.....	150	.65	.120	.....	Cream.....	150	.63	.120	.....
Bread.....	180	2.92	.174	.....	Bread.....	180	2.99	.162	.....
Jelly (grape).....	40	.02	.006	.....	Jelly (grape).....	40	.02	.006	.....
Beef.....	100	3.68	.210	.....	Beef.....	100	3.82	.216	.....
Peas.....	300	1.62	.181	.....	Peas.....	300	1.47	.176	.....
Lima beans.....	100	.99	.088	.....	String beans.....	150	.42	.063	.....
Boiled potato.....	140	.36	.078	.....	Mashed potato.....	120	.47	.081	.....
Strawberries.....	180	.27	.053	.....	Pears.....	380	.23	.048	.....
Strawberry juice..	20	.....	.001	.....	Pear juice.....	20	.01	.002	.....
Grape juice (c. c.)	100	.04	.007	.....	Grape juice (c. c.)	200	.08	.014	.....
Water (c. c.).....	950	.....	.....	.....	Water (c. c.).....	850	.....	.....	.....
Sugar.....	50	.....	.....	.....	Sugar.....	70	.....	.....	.....
Total.....	2,620	12.38	1.127	.....	Total.....	2,830	11.94	1.090	.....

CHART I.—Diet—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 7, 1911.</i>					<i>May 11, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Cream of wheat....	15	0.30	0.017	.....
Egg.....	50	1.03	.118	.....	Egg.....	48.5	1.00	.115	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	190	.36	.051	.....	Orange.....	130	.25	.035	.....
Cream.....	100	.40	.080	.....	Cream.....	150	.56	.114	.....
Bread.....	180	3.01	.159	.....	Bread.....	180	2.86	.173	.....
Jelly (grape).....	40	.02	.006	.....	Jelly (quince).....	40	.....	.002	.....
Fowl.....	100	4.03	.214	.....	Veal.....	100	3.95	.236	.....
Peas.....	300	1.56	.181	.....	Peas.....	300	1.62	.183	.....
String beans.....	150	.41	.059	.....	String beans.....	150	.44	.060	.....
Boiled potato.....	120	.36	.077	.....	Boiled potato.....	120	.37	.068	.....
Ice cream.....	220	.75	.148	.....	Peaches.....	380	.42	.067	.....
Grape juice (c. c.)..	200	.08	.014	.....	Peach juice.....	20	.01	.003	.....
Water (c. c.).....	800	.....	.....	.....	Grape juice (c. c.)..	250	.10	.017	.....
Sugar.....	75	.....	.....	.....	Water (c. c.).....	1,000	.....	.....	.....
Total.....	2,610	12.38	1.138	.....	Sugar.....	80	.....	.....	.....
<i>May 8, 1911.</i>					<i>May 12, 1911.</i>				
Oatmeal.....	15	.38	.070	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	50.5	1.04	.120	.....	Egg.....	54	1.11	.128	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	120	.23	.032	.....	Sliced bananas.....	60	.08	.018	.....
Cream.....	150	.56	.110	.....	Cream.....	150	.54	.113	.....
Bread.....	180	2.95	.181	.....	Bread.....	180	2.90	.181	.....
Jelly (grape).....	40	.02	.006	.....	Jelly (quince).....	40	.....	.002	.....
Lamb.....	100	3.71	.212	.....	Lamb.....	100	3.87	.221	.....
Peas.....	300	1.56	.181	.....	Peas.....	300	1.68	.191	.....
String beans.....	150	.44	.077	.....	String beans.....	150	.41	.059	.....
Mashed potato.....	120	.36	.078	.....	Mashed potato.....	120	.38	.085	.....
Rice pudding.....	200	1.30	.215	.....	Peaches.....	380	.42	.067	.....
Grape juice (c. c.)..	250	.10	.017	.....	Peach juice.....	20	.01	.003	.....
Water (c. c.).....	900	.....	.....	.....	Grape juice (c. c.)..	150	.06	.010	.....
Sugar.....	85	.....	.....	.....	Water (c. c.).....	1,600	.....	.....	.....
Total.....	2,730	12.72	1.313	.....	Sugar.....	65	.....	.....	.....
<i>May 9, 1911.</i>					<i>May 13, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	60.5	1.25	.143	.....	Egg.....	47.5	.98	.113	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	155	.30	.042	.....	Orange.....	190	.36	.051	.....
Cream.....	150	.56	.113	.....	Cream.....	150	.50	.104	.....
Bread.....	180	2.92	.181	.....	Bread.....	180	2.88	.174	.....
Jelly (grape).....	40	.02	.006	.....	Jelly (grape).....	40	.02	.006	.....
Beef.....	100	3.95	.210	.....	Beef.....	100	3.91	.207	.....
Peas.....	300	1.53	.186	.....	Peas.....	300	1.71	.194	.....
String beans.....	150	.75	.056	.....	String beans.....	150	.47	.058	.....
Boiled potato.....	120	.37	.085	.....	Boiled potato.....	120	.36	.078	.....
Strawberries.....	180	.32	.053	.....	Pears.....	380	.23	.048	.....
Strawberry juice....	20	.....	.001	.....	Pear juice.....	20	.01	.002	.....
Grape juice (c. c.)..	200	.08	.014	.....	Grape juice (c. c.)..	100	.04	.007	.....
Water (c. c.).....	850	.....	.....	.....	Water (c. c.).....	1,500	.....	.....	.....
Sugar.....	60	.....	.....	.....	Sugar.....	50	.....	.....	.....
Total.....	2,650	12.42	1.121	.....	Total.....	3,410	11.84	1.073	.....
<i>May 10, 1911.</i>					<i>May 14, 1911.</i>				
Oatmeal.....	15	.38	.070	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	54.2	1.12	.128	.....	Egg.....	52.5	1.08	.124	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Sliced bananas.....	60	.11	.016	.....	Orange.....	180	.34	.049	.....
Cream.....	100	.39	.078	.....	Cream.....	100	.38	.075	.....
Bread.....	200	3.20	.196	.....	Bread.....	180	2.93	.179	.....
Jelly (currant).....	40	.02	.003	.....	Jelly (grape).....	40	.02	.006	.....
Fowl.....	100	3.68	.207	.....	Fowl.....	100	3.77	.207	.....
Peas.....	300	1.50	.186	.....	Peas.....	300	1.68	.186	.....
String beans.....	150	.42	.059	.....	String beans.....	150	.44	.063	.....
Sweet potato.....	50	.17	.028	.....	Boiled potato.....	120	.38	.079	.....
Water ice.....	140	.01	.008	.....	Ice cream.....	220	.81	.165	.....
Grape juice (c. c.)..	250	.10	.017	.....	Grape juice (c. c.)..	100	.04	.007	.....
Water (c. c.).....	950	.....	.....	.....	Water (c. c.).....	1,400	.....	.....	.....
Sugar.....	65	.....	.....	.....	Sugar.....	50	.....	.....	.....
Total.....	2,540	11.17	1.010	.....	Total.....	3,070	12.24	1.171	.....

CHART I.—*Diet*—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 15, 1911.</i>					<i>May 19, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	15	0.38	0.070	.....	Oatmeal.....	15	0.38	0.070	.....
Egg.....	52	1.07	.123	.....	Egg.....	53.5	1.10	.127	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	120	.23	.032	.....	Sliced bananas.....	60	.11	.015	.....
Cream.....	150	.63	.117	.....	Cream.....	150	.54	.119	.....
Bread.....	180	2.81	.173	.....	Bread.....	180	2.93	.185	.....
Jelly (grape).....	40	.02	.006	.....	Jelly (currant).....	40	.02	.003	.....
Lamb.....	100	3.84	.214	.....	Lamb.....	100	3.30	.204	.....
Peas.....	300	1.56	.178	.....	Peas.....	200	1.10	.119	.....
String beans.....	150	.42	.067	.....	Milk (c. c.).....	200	1.06	.210	0.0314
Mashed potato.....	120	.37	.070	.....	String beans.....	150	.42	.062	.....
Rice pudding.....	200	1.12	.206	.....	Mashed potato.....	120	.32	.066	.....
Grape juice (c. c.).....	100	.04	.007	.....	Peaches.....	380	.42	.067	.....
Water (c. c.).....	1,500	.....	.....	.....	Peach juice.....	20	.01	.003	.....
Sugar.....	45	.....	.....	.....	Water (c. c.).....	1,800	.....	.....	.....
Total.....	3,140	12.56	1.277	.....	Sugar.....	35	.....	.....	.....
<i>May 16, 1911.</i>					<i>May 20, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	54.5	1.12	.129	.....	Egg.....	52.5	1.08	.124	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	125	.24	.034	.....	Orange.....	105	.20	.028	.....
Cream.....	150	.57	.115	.....	Cream.....	150	.62	.122	.....
Bread.....	180	2.83	.176	.....	Bread.....	180	2.79	.185	.....
Jelly (grape).....	40	.02	.006	.....	Jelly (currant).....	40	.02	.003	.....
Beef.....	100	3.86	.210	.....	Beef.....	100	3.68	.223	.....
Peas.....	300	1.74	.183	.....	Peas.....	200	1.14	.126	.....
String beans.....	150	.47	.060	.....	Milk (c. c.).....	200	1.04	.215	0.0314
Potato.....	120	.29	.085	.....	String beans.....	150	.42	.067	.....
Strawberries.....	180	.39	.053	.....	Potato.....	120	.36	.085	.....
Strawberry juice.....	20	.....	.001	.....	Pears.....	380	.23	.048	.....
Water (c. c.).....	1,300	.....	.....	.....	Pear juice.....	20	.01	.002	.....
Sugar.....	40	.....	.....	.....	Water (c. c.).....	1,200	.....	.....	.....
Total.....	2,840	11.90	1.083	.....	Sugar.....	40	.....	.....	.....
<i>May 17, 1911.</i>					<i>May 21, 1911.</i>				
Oatmeal.....	15	.38	.070	.....	Cream of wheat.....	15	.30	.017	.....
Egg.....	53	1.09	.126	.....	Egg.....	59.5	1.23	.141	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.17	.014	.....
Sliced bananas.....	60	.13	.019	.....	Orange.....	105	.20	.028	.....
Cream.....	100	.38	.077	.....	Cream.....	100	.39	.076	.....
Bread.....	200	3.16	.194	.....	Bread.....	180	3.04	.185	.....
Jelly (currant).....	40	.02	.003	.....	Jelly (currant).....	40	.02	.003	.....
Fowl.....	100	3.53	.201	.....	Fowl.....	100	3.86	.210	.....
Peas.....	200	1.12	.126	.....	Peas.....	200	1.14	.131	.....
Milk (c. c.).....	200	1.12	.213	0.0314	String beans.....	150	.44	.055	.....
String beans.....	151	.45	.064	.....	Milk (c. c.).....	200	1.00	.199	0.0314
Sweet potato.....	50	.13	.024	.....	Boiled potato.....	120	.44	.077	.....
Water ice.....	140	.01	.008	.....	Ice cream.....	220	.79	.160	.....
Water (c. c.).....	1,200	.....	.....	.....	Water (c. c.).....	1,200	.....	.....	.....
Sugar.....	35	.....	.....	.....	Sugar.....	35	.....	.....	.....
Total.....	2,610	11.59	1.139	.0314	Total.....	2,790	12.92	1.296	.0314
<i>May 18, 1911.</i>					<i>May 22, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Cream of wheat ¹	51.5	1.06	.122	.....
Egg.....	51.2	1.05	.121	.....	Butter ¹	50	.06	.011	.....
Butter.....	65	.07	.014	.....	Orange.....	100	.19	.027	.....
Orange.....	110	.21	.030	.....	Cream.....	60	.26	.046	.....
Cream.....	150	.57	.119	.....	Bread.....	180	2.92	.181	.....
Bread.....	180	2.92	.181	.....	Jelly (currant).....	40	.02	.003	.....
Jelly (currant).....	40	.02	.003	.....	Lamb.....	100	3.26	.207	.....
Veal.....	100	3.95	.234	.....	Peas.....	200	1.20	.127	.....
Peas.....	200	1.10	.124	.....	Milk (c. c.).....	200	1.10	.218	.....
Milk (c. c.).....	200	1.14	.217	0.0314	String beans.....	150	.45	.063	.....
String beans.....	150	.44	.052	.....	Mashed potato.....	121	.41	.067	.....
Boiled potato.....	120	.26	.062	.....	Rice pudding.....	200	1.24	.201	.....
Peaches.....	380	.47	.067	.....	Water (c. c.).....	1,500	.....	.....	.....
Peach juice.....	20	.01	.003	.....	Sugar.....	25	.....	.....	.....
Water (c. c.).....	2,000	.....	.....	.....	Total.....	2,980	12.17	1.270	.....
Sugar.....	40	.....	.....	.....		
Total.....	3,820	12.46	1.244	.0314					

¹ On account of upset stomach, could not eat cereal and total amount of butter; had some gravy.

CHART I.—*Diet*—Continued.

SUBJECT No. 1—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 23, 1911.</i>					<i>May 27, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Oatmeal.....	15	0.38	0.070	.....
Egg.....	60	1.24	.142	.....	Egg.....	53	1.09	.126	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	140	.27	.038	.....	Orange.....	30	.06	.008	.....
Cream.....	150	.56	.117	.....	Cream.....	150	.56	.111	.....
Bread.....	180	2.83	.167	.....	Bread.....	180	2.84	.178	.....
Jelly (currant)....	40	.02	.003	.....	Jelly (apple)....	40	.....	.002	.....
Beef.....	100	4.06	.212	.....	Beef.....	100	4.15	.212	.....
Peas.....	200	1.22	.120	.....	Peas.....	200	1.20	.127	.....
Milk (c. c.).....	200	1.06	.213	.....	Milk (c. c.).....	200	1.08	.204	.....
String beans.....	150	.45	.052	.....	String beans.....	150	.41	.060	.....
Boiled potato.....	120	.35	.060	.....	Boiled potato.....	120	.44	.040	.....
Strawberries.....	180	.32	.053	.....	Pears.....	380	.23	.048	.....
Strawberry juice....	20	.....	.001	.....	Pear juice.....	20	.01	.002	.....
Water (c. c.).....	1,400	.....	.....	.....	Water (c. c.).....	1,500	.....	.....	.....
Sugar.....	30	.....	.....	.....	Sugar.....	35	.....	.....	.....
Total.....	3,050	12.75	1.209	.....	Total.....	3,240	12.52	1.202	.....
<i>May 24, 1911.</i>					<i>May 28, 1911.</i>				
Oatmeal.....	15	.38	.070	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	57.5	1.18	.136	.....	Egg.....	49.5	1.02	.117	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Sliced bananas.....	60	.11	.016	.....	Orange.....	20	.04	.005	.....
Cream.....	100	.39	.078	.....	Cream.....	100	.36	.079	.....
Bread.....	200	3.32	.192	.....	Bread.....	180	2.88	.187	.....
Jelly (apple)....	40	.....	.002	.....	Jelly (quince)....	40	.....	.002	.....
Fowl.....	100	3.68	.201	.....	Fowl.....	100	3.71	.204	.....
Peas.....	200	1.10	.126	.....	Peas.....	200	1.08	.124	.....
Milk (c. c.).....	200	1.06	.211	.....	Milk (c. c.).....	200	1.06	.202	.....
String beans.....	150	.45	.058	.....	String beans.....	150	.45	.051	.....
Sweet potato.....	50	.12	.025	.....	Boiled potato.....	120	.48	.046	.....
Water ice.....	140	.01	.008	.....	Ice cream.....	220	.77	.146	.....
Water (c. c.).....	1,400	.....	.....	.....	Water (c. c.).....	1,800	.....	.....	.....
Sugar.....	35	.....	.....	.....	Sugar.....	25	.....	.....	.....
Total.....	2,810	11.87	1.137	.....	Total.....	3,290	12.22	1.194	.....
<i>May 25, 1911.</i>					<i>May 29, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	58	1.19	.137	.....	Egg.....	48.5	1.00	.115	.....
Butter.....	65	.07	.014	.....	Butter.....	65	.07	.014	.....
Orange.....	110	.21	.030	.....	Orange.....	95	.18	.026	.....
Cream.....	150	.59	.117	.....	Cream.....	150	.57	.113	.....
Bread.....	180	2.86	.171	.....	Bread.....	180	2.81	.170	.....
Jelly (currant)....	40	.02	.003	.....	Jelly (quince)....	40	.....	.002	.....
Veal.....	100	4.06	.234	.....	Lamb.....	100	3.78	.221	.....
Peas.....	200	1.14	.134	.....	Peas.....	200	1.08	.134	.....
Milk (c. c.).....	200	1.02	.194	.....	Milk (c. c.).....	200	1.04	.208	.....
String beans.....	150	.45	.054	.....	String beans.....	150	.50	.051	.....
Boiled potato.....	120	.46	.064	.....	Mashed potato.....	120	.37	.042	.....
Peaches.....	380	.42	.067	.....	Rice pudding.....	200	1.56	.210	.....
Peach juice.....	20	.01	.003	.....	Water (c. c.).....	1,400	.....	.....	.....
Water (c. c.).....	1,600	.....	.....	.....	Sugar.....	45	.....	.....	.....
Sugar.....	45	.....	.....	.....	Total.....	3,010	13.34	1.376	.....
Total.....	3,430	12.80	1.239	.....	<i>May 30, 1911.</i>				
<i>May 26, 1911.</i>					Cream of wheat....	15	.30	.017	.....
Cream of wheat....	15	.30	.017	.....	Egg.....	49.5	1.02	.117	.....
Egg.....	56.5	1.16	.134	.....	Butter.....	65	.07	.014	.....
Butter.....	65	.07	.014	.....	Orange.....	130	.25	.035	.....
Sliced bananas.....	60	.11	.015	.....	Cream.....	150	.57	.114	.....
Cream.....	150	.57	.114	.....	Bread.....	180	2.93	.174	.....
Bread.....	180	2.92	.167	.....	Jelly (quince)....	40	.....	.002	.....
Jelly (apple)....	40	.....	.002	.....	Beef.....	100	3.89	.212	.....
Lamb.....	100	3.62	.216	.....	Peas.....	200	1.04	.129	.....
Peas.....	200	1.18	.129	.....	Milk (c. c.).....	200	.98	.204	.....
Milk (c. c.).....	200	1.08	.215	.....	String beans.....	150	.45	.048	.....
String beans.....	150	.45	.052	.....	Boiled potato.....	120	.35	.044	.....
Mashed potato.....	120	.37	.040	.....	Strawberries.....	180	.32	.053	.....
Peaches.....	380	.42	.067	.....	Strawberry juice....	20	.....	.001	.....
Peach juice.....	20	.01	.003	.....	Water (c. c.).....	1,200	.....	.....	.....
Water (c. c.).....	1,400	.....	.....	.....	Sugar.....	40	.....	.....	.....
Sugar.....	50	.....	.....	.....	Total.....	2,840	12.17	1.164	.....
Total.....	3,190	21.26	1.185	.....				

CHART I.—Diet—Continued.

SUBJECT No. 2 (M. R. B.).

Food.	Sunday.	Monday.	Tuesday.	Wednes- day.	Thurs- day.	Friday.	Satur- day.
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Cream of wheat.....	20		20		20		20
Oatmeal.....		20		20		20	
Egg.....	123	117.5	80	100.4	102.5	94.5	105.5
Butter.....	70	70	70	70	70	70	70
Orange.....	210	137	199		187.5		196
Sliced banana.....				110		110	
Cream.....	220	220	260	210	220	210	220
Bread.....	150	150	150	150	150	150	150
Jelly.....	80	80	80	80	80	80	80
Beef.....			150				150
Fowl.....	150			150			
Veal.....					150		
Lamb.....		150				150	
Peas.....	150	150	150	150	150	150	150
Beets.....		20					
Lima beans.....			200				
String beans.....					150		
Corn.....						150	
Celery.....	20						
Hominy.....				150			
Mashed or boiled potato.....	150	150		150	150	150	150
Sweet potato.....			30				
Rice, steamed.....							150
Rice pudding.....		300					
Ice cream.....	240						
Water ice.....				200			
Peaches.....					420		
Pears.....							420
Cherries.....						282	
Strawberries.....			300				
Grape juice (c. c.).....	150						
Carbonated water (c. c.).....	150	240					
Water (c. c.).....	1,920	1,310	1,680	1,680	1,440	1,680	1,680
Sugar.....	26	27	24	20	24	20	23

Food.	Amount.	Nitro- gen.	Phos- pho- rus.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- pho- rus.	Cop- per.
<i>Mar. 1, 1911.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Mar. 3, 1911.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093		Oatmeal.....	20	0.50	0.093	
Egg.....	100.4	2.07	.238		Egg.....	94.5	1.95	.224	
Butter.....	70	.08	.015		Butter.....	70	.08	.015	
Sliced bananas.....	110	.21	.050		Sliced bananas.....	110	.20	.029	
Cream.....	210	.80	.163		Cream.....	210	.86	.075	
Bread.....	150	2.40	.126		Bread.....	150	2.45	.147	
Jelly (grape).....	80	.03	.012		Jelly (grape).....	80	.03	.012	
Fowl.....	150	4.28	.341		Lamb.....	150	5.04	.354	
Peas.....	150	.84	.085		Peas.....	150	.83	.098	
Hominy.....	150	.59	.019		Corn.....	150	.56	.109	
Potato.....	150	.53	.094		Potato.....	150	.53	.102	
Water ice.....	200	.02	.011		Cherries.....	382	.50	.076	
Water (c. c.).....	1,680				Water (c. c.).....	1,680			
Sugar.....	20				Sugar.....	20			
Total.....	3,240	12.35	1.247		Total.....	3,420	13.53	1.334	
<i>Mar. 2, 1911.</i>					<i>Mar. 4, 1911.</i>				
Cream of wheat.....	20	.40	.022		Cream of wheat.....	20	.40	.022	
Egg.....	102.5	2.11	.243		Egg.....	105.5	2.17	.250	
Butter.....	70	.08	.015		Butter.....	70	.08	.015	
Orange.....	187.5	.36	.051		Orange.....	196	.37	.053	
Cream.....	220	.77	.177		Cream.....	220	.84	.169	
Bread.....	150	2.28	.135		Bread.....	150	2.36	.172	
Jelly (grape).....	80	.03	.012		Jelly (grape).....	80	.03	.012	
Veal.....	150	5.64	.360		Beef.....	150	5.52	.341	
Peas.....	150	.87	.092		Peas.....	150	.89	.118	
String beans.....	150	.36	.045		Potato.....	150	.56	.122	
Potato.....	150	.54	.064		Rice, steamed.....	150	.50	.041	
Peaches.....	420	.46	.074		Pears.....	420	.25	.053	
Water (c. c.).....	1,440				Water (c. c.).....	1,680			
Sugar.....	20				Sugar.....	23			
Total.....	3,310	13.90	1.290		Total.....	3,570	13.97	1.368	

CHART I.—Diet—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 5, 1911.</i>					<i>Mar. 9, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	20	0.40	0.022	.....	Cream of wheat.....	20	0.40	0.022	.....
Egg.....	90.3	1.86	.214	.....	Egg.....	111	2.29	.23	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	152	.29	.041	.....	Orange.....	146.5	.28	.040	.....
Cream.....	210	.80	.154	.....	Cream.....	220	.86	.163	.....
Bread.....	150	2.42	.148	.....	Bread.....	150	2.51	.147	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Fowl.....	150	5.82	.351	.....	Veal.....	150	5.36	.33	.....
Peas.....	150	.86	.096	.....	Peas.....	150	.78	.084	.....
Celery.....	20	.03	.006	.....	String beans.....	150	.41	.035	.....
Potato.....	150	.59	.096	.....	Boiled potato.....	150	.57	.090	.....
Ice cream.....	280	1.04	.203	.....	Peaches.....	420	.46	.074	.....
Grape juice (c. c.).....	150	.06	.010	.....	Carbonated water				
Carbonated water					(c. c.).....	200	.....	.....	.....
(c. c.).....	150	.....	.....	.....	Water (c. c.).....	1,200	.....	.....	.....
Water (c. c.).....	1,200	.....	.....	.....	Sugar.....	20	.....	.....	.....
Sugar.....	15	.....	.....	.....		
Total.....	3,040	14.28	1.368	.....	Total.....	3,240	14.03	1.314	.....
<i>Mar. 6, 1911.</i>					<i>Mar. 10, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	102.5	2.11	.243	.....	Egg.....	112	2.31	.246	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	194	.37	.052	.....	Sliced bananas.....	110	.23	.028	.....
Cream.....	229	.81	.163	.....	Cream.....	210	.78	.156	.....
Bread.....	150	2.42	.145	.....	Bread.....	150	2.54	.148	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Lamb.....	150	5.12	.335	.....	Lamb.....	150	5.00	.330	.....
Peas.....	150	.84	.094	.....	Peas.....	150	.80	.080	.....
Beets.....	20	.65	.015	.....	Corn.....	150	.63	.102	.....
Potato.....	150	.51	.092	.....	Boiled potato.....	150	.62	.085	.....
Rice pudding.....	300	2.04	.359	.....	Cherries.....	257.5	.36	.053	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	90.0	.....	.....	.....
Sugar.....	18	.....	.....	.....	Sugar.....	25	.....	.....	.....
Total.....	3,070	14.83	1.618	.....	Total.....	2,610	13.88	1.368	.....
<i>Mar. 7 1911.</i>					<i>Mar. 11, 1911.</i>				
Cream of wheat.....	20	.40	.022	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	90.7	1.87	.215	.....	Egg.....	122	2.51	.289	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	163.8	.31	.044	.....	Orange.....	132	.25	.036	.....
Cream.....	260	1.01	.198	.....	Cream.....	220	.86	.167	.....
Bread.....	150	2.49	.144	.....	Bread.....	150	2.51	.144	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Beef.....	150	5.22	.321	.....	Beef.....	150	5.61	.321	.....
Peas.....	150	.84	.083	.....	Peas.....	150	.81	.080	.....
Lima beans.....	200	2.22	.198	.....	Mashed potato.....	150	.57	.097	.....
Potato.....	150	.48	.098	.....	Rice, steamed.....	150	.53	.030	.....
Strawberries.....	300	.54	.088	.....	Pears.....	420	.25	.053	.....
Water (c. c.).....	2,160	.....	.....	.....	Water (c. c.).....	1,200	.....	.....	.....
Sugar.....	20.8	.....	.....	.....	Sugar.....	20	.....	.....	.....
Total.....	3,970	15.49	1.444	.....	Total.....	3,030	14.41	1.266	.....
<i>Mar. 8, 1911.</i>					<i>Mar. 12, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	97.3	2.00	.231	.....	Egg.....	92	1.90	.218	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.22	.031	.....	Orange.....	161.5	.30	.044	.....
Cream.....	210	.80	.158	.....	Cream.....	210	.76	.150	.....
Bread.....	150	2.52	.155	.....	Bread.....	150	2.52	.149	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Fowl.....	150	5.88	.335	.....	Fowl.....	150	5.15	.311	.....
Peas.....	150	.87	.093	.....	Peas.....	150	.81	.080	.....
Hominy.....	150	.56	.021	.....	Celery.....	20	.03	.007	.....
Sweet potato.....	30	.07	.013	.....	Boiled potato.....	150	.59	.100	.....
Water ice.....	200	.02	.011	.....	Ice cream.....	240	.89	.157	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	1,440	.....	.....	.....
Sugar.....	35	.....	.....	.....	Sugar.....	20	.....	.....	.....
Total.....	2,890	13.55	1.168	.....	Total.....	2,950	13.46	1.265	.....

CHART I.—Diet—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 13, 1911.</i>					<i>Mar. 17, 1911.</i>				
Oatmeal.....	<i>Grams.</i> 20	<i>Grams.</i> 0.50	<i>Grams.</i> 0.093	<i>Gram.</i>	Oatmeal.....	<i>Grams.</i> 20	<i>Grams.</i> 0.50	<i>Grams.</i> 0.093	.....
Egg.....	107	2.20	.254	.....	Egg.....	107.5	2.21	.255	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	217	.41	.059	.....	Sliced bananas.....	110	.25	.023	.....
Cream.....	220	.81	.163	.....	Cream.....	210	.80	.158	.....
Bread.....	150	2.49	.145	.....	Bread.....	150	2.49	.138	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (crab apple).....	80	.01	.005	.....
Lamb.....	150	5.00	.311	.....	Lamb.....	150	4.92	.315	.....
Peas.....	150	.81	.083	.....	Peas.....	150	1.11	.130	0.0191
Beets.....	20	.05	.017	.....	Corn.....	150	.50	.093	.....
Mashed potato.....	150	.54	.093	.....	Mashed potato.....	150	.54	.107	.....
Rice pudding.....	300	2.16	.420	.....	Cherries.....	266	.35	.053	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	1,440	.....	.....	.....
Sugar.....	20.5	.....	.....	.....	Sugar.....	42	.....	.....	.....
Total.....	3,100	15.08	1.665	.....	Total.....	3,100	13.76	1.385	.0191
<i>Mar. 14, 1911.</i>					<i>Mar. 18, 1911.</i>				
Cream of wheat.....	20	.40	.022	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	113	2.33	.268	.....	Egg.....	109	2.25	.258	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	179	.34	.048	.....	Orange.....	170.5	.32	.046	.....
Cream.....	260	.99	.196	.....	Cream.....	220	.81	.165	.....
Bread.....	150	2.49	.139	.....	Bread.....	150	2.40	.136	.....
Jelly (raspberry, currant).....	80	.03	.003	.....	Jelly (crab apple).....	80	.01	.005	.....
Beef.....	150	5.07	.306	.....	Beef.....	150	5.46	.306	.....
Peas.....	150	.81	.084	.....	Peas.....	150	1.04	.119	.0164
Lima beans.....	200	2.48	.204	.....	Boiled potato.....	150	.48	.089	.....
Boiled potato.....	150	.51	.089	.....	Rice, steamed.....	150	.41	.045	.....
Strawberries.....	300	.42	.088	.....	Pears.....	420	.25	.053	.....
Strawberry juice.....	40	.01	.003	.....	Water (c. c.).....	1,680	.....	.....	.....
Water (c. c.).....	840	.....	.....	.....	Sugar.....	24.5	.....	.....	.....
Sugar.....	17	.....	.....	.....	Total.....	3,550	13.91	1.262	.0164
Total.....	2,720	15.96	1.468	.....	<i>Mar. 19, 1911.</i>				
<i>Mar. 15, 1911.</i>					Cream of wheat.....	20	.40	.022	.....
Oatmeal.....	20	.50	.093	.....	Egg.....	115	2.37	.273	.....
Egg.....	107.5	2.21	.255	.....	Butter.....	70	.08	.015	.....
Butter.....	70	.08	.015	.....	Orange.....	144.5	.28	.039	.....
Sliced bananas.....	110	.21	.041	.....	Cream.....	210	.80	.158	.....
Cream.....	210	.78	.163	.....	Bread.....	150	2.49	.135	.....
Bread.....	150	2.60	.143	.....	Jelly (grape).....	80	.03	.012	.....
Jelly (raspberry and currant).....	80	.03	.006	.....	Fowl.....	150	5.66	.305	.....
Fowl.....	150	5.33	.321	.....	Peas.....	150	1.16	.125	.0168
Peas (green).....	150	1.14	.119	0.0171	Celery.....	20	.04	.010	.....
Hominy.....	150	.50	.017	.....	Boiled potato.....	150	.56	.109	.....
Sweet potato.....	30	.08	.011	.....	Ice cream.....	240	.91	.172	.....
Water ice.....	200	.02	.011	.....	Grape juice (c. c.).....	240	.10	.016	.....
Water (c. c.).....	1,200	.....	.....	.....	Water (c. c.).....	1,440	.....	.....	.....
Sugar.....	55.5	.....	.....	.....	Sugar.....	23.5	.....	.....	.....
Total.....	2,680	13.48	1.195	.0171	Total.....	3,200	14.88	1.391	.0168
<i>Mar. 16, 1911.</i>					<i>Mar. 20, 1911.</i>				
Cream of wheat.....	20	.40	.022	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	102	2.10	.242	.....	Egg.....	110.5	2.28	.262	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	157.5	.30	.043	.....	Orange.....	160	.30	.043	.....
Cream.....	220	.84	.171	.....	Cream.....	220	.86	.167	.....
Bread.....	150	2.51	.139	.....	Bread.....	150	2.54	.135	.....
Jelly (raspberry and currant).....	80	.03	.006	.....	Jelly (grape).....	80	.03	.012	.....
Veal.....	150	5.37	.341	.....	Lamb.....	150	5.13	.315	.....
Peas.....	150	1.11	.119	.0180	Peas.....	150	1.14	.125	.0165
String beans.....	150	.41	.042	.....	Beets.....	20	.08	.013	.....
Boiled potato.....	150	.62	.091	.....	Mashed potato.....	150	.48	.073	.....
Peaches.....	420	.46	.074	.....	Rice pudding.....	300	2.46	.380	.....
Water (c. c.).....	1,200	.....	.....	.....	Grape juice (c. c.).....	200	.08	.014	.....
Sugar.....	17.5	.....	.....	.....	Carbonated water (c. c.).....	50	.....	.....	.....
Total.....	3,040	14.23	1.305	.0180	Water (c. c.).....	1,200	.....	.....	.....
					Sugar.....	28	.....	.....	.....
					Total.....	3,060	15.96	1.647	.0165

CHART I.—Diet—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 21, 1911.</i>					<i>Mar. 25, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	20	0.40	0.022	.....	Cream of wheat....	20	0.40	0.022	.....
Egg.....	107	2.20	.254	.....	Egg.....	92	1.90	.218	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	144.5	.28	.039	.....	Orange.....	177.5	.34	.048	.....
Cream.....	260	1.07	.212	.....	Cream.....	220	.86	.162	.....
Bread.....	150	2.52	.136	.....	Bread.....	150	2.36	.138	.....
Jelly (crab apple)...	80	.01	.005	.....	Jelly (grape).....	80	.03	.012	.....
Beef.....	150	5.90	.321	.....	Beef.....	150	5.97	.318	.....
Peas.....	150	1.14	.123	0.0179	Peas.....	150	1.18	.126	0.0179
Lima beans.....	250	2.54	.201	.....	Potato.....	150	.47	.081	.....
Boiled potato.....	150	.53	.105	.....	Rice, steamed.....	150	.51	.051	.....
Strawberries.....	300	.63	.088	.....	Pears.....	420	.25	.053	.....
Strawberry juice.....	70	.01	.003	.....	Water (c. c.).....	1,440	.....	.....	.....
Water (c. c.).....	1,200	.....	.....	.....	Sugar.....	21	.....	.....	.....
Sugar.....	17	.....	.....	.....		
Total.....	3,040	17.31	1.524	.0179	Total.....	3,290	14.35	1.244	.0179
<i>Mar. 22, 1911.</i>					<i>Mar. 26, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat....	20	.40	.022	.....
Egg.....	103	2.18	.251	.....	Egg.....	96.5	1.99	.229	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.22	.024	.....	Orange.....	177.5	.34	.048	.....
Cream.....	210	.86	.158	.....	Cream.....	210	.82	.156	.....
Bread.....	150	2.57	.134	.....	Bread.....	150	2.42	.143	.....
Jelly (crab apple)...	80	.01	.005	.....	Jelly (grape).....	80	.04	.012	.....
Fowl.....	150	5.79	.294	.....	Fowl.....	150	5.46	.311	.....
Peas.....	150	1.11	.128	.0165	Peas.....	150	1.08	.118	.0183
Hominy.....	150	.57	.017	.....	Celery.....	20	.04	.009	.....
Sweet potato.....	30	.08	.012	.....	Boiled potato.....	150	.62	.076	.....
Water ice.....	200	.02	.011	.....	Ice cream.....	240	.91	.168	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	2,160	.....	.....	.....
Sugar.....	38	.....	.....	.....	Sugar.....	25.5	.....	.....	.....
Total.....	2,900	13.99	1.142	.0165	Total.....	3,700	14.20	1.307	.0183
<i>Mar. 23, 1911.</i>					<i>Mar. 27, 1911.</i>				
Cream of wheat....	20	.40	.022	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	101.5	2.09	.241	.....	Egg.....	97.5	2.01	.231	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	152	.29	.041	.....	Orange.....	152	.29	.041	.....
Cream.....	220	.79	.156	.....	Cream.....	220	.86	.167	.....
Bread.....	150	2.45	.139	.....	Bread.....	150	2.45	.139	.....
Jelly (grape).....	80	.04	.012	.....	Jelly (grape).....	80	.03	.012	.....
Veal.....	150	5.93	.344	.....	Lamb.....	150	5.67	.321	.....
Peas.....	150	1.11	.128	.0147	Peas.....	150	1.08	.128	.0162
String beans.....	150	.39	.039	.....	Beets.....	20	.07	.011	.....
Boiled potato.....	150	.60	.107	.....	Mashed potato.....	150	.48	.098	.....
Peaches.....	420	.46	.074	.....	Rice pudding.....	300	1.89	.312	.....
Carbonated water (c. c.).....	1,200	.....	.....	.....	Water (c. c.).....	1,920	.....	.....	.....
Sugar.....	17	.....	.....	.....	Sugar.....	29	.....	.....	.....
Total.....	3,030	14.63	1.318	.0147	Total.....	3,510	15.41	1.568	.0162
<i>Mar. 24, 1911.</i>					<i>Mar. 28, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat....	20	.40	.022	.....
Egg.....	95.5	1.97	.226	.....	Egg.....	99	2.04	.235	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.19	.027	.....	Orange.....	157.5	.30	.043	.....
Cream.....	210	.82	.156	.....	Cream.....	260	.99	.195	.....
Bread.....	150	2.39	.136	.....	Bread.....	150	2.52	.143	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Lamb.....	150	5.76	.318	.....	Beef.....	150	5.91	.318	.....
Peas.....	150	1.14	.123	.0170	Peas.....	150	1.11	.127	.0173
Corn.....	150	.59	.103	.....	Lima beans.....	200	2.58	.185	.....
Mashed potato.....	150	.54	.098	.....	Boiled potato.....	150	.45	.094	.....
Cherries.....	269	.36	.053	.....	Strawberries.....	300	.42	.088	.....
Water (c. c.).....	1,440	.....	.....	.....	Strawberry juice.....	40	.01	.003	.....
Sugar.....	34	.....	.....	.....	Water (c. c.).....	2,160	.....	.....	.....
Total.....	3,080	14.37	1.360	.0170	Sugar.....	27.5	.....	.....	.....
					Total.....	4,020	16.84	1.480	.0173

CHART I.—Diet—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 29, 1911.</i>					<i>Apr. 2, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	Cream of wheat....	20	0.40	0.022	.....
Egg.....	97	2.00	.230	.....	Egg.....	98.5	2.03	.233	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.25	.023	.....	Orange.....	192.5	.37	.052	.....
Cream.....	210	.86	.162	.....	Cream.....	210	.80	.160	.....
Bread.....	150	2.58	.139	.....	Bread.....	150	2.34	.135	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (apple).....	80	.01	.005	.....
Fowl.....	150	5.73	.321	.....	Fowl.....	150	5.64	.302	.....
Peas.....	150	1.14	.127	0.0186	Peas.....	150	1.08	.123	0.0167
Hominy.....	150	.59	.020	.....	Celery.....	20	.03	.006	.....
Sweet potato.....	30	.07	.011	.....	Boiled potato.....	150	.48	.101	.....
Water ice.....	200	.02	.011	.....	Ice cream.....	300	1.08	.215	.....
Water (c. c.).....	1,680	.....	.....	.....	Water (c. c.).....	1,440	.....	.....	.....
Sugar.....	32	.....	.....	.....	Sugar.....	35	.....	.....	.....
Total.....	3,130	13.85	1.164	.0186	Total.....	3,070	14.34	1.369	.0167
<i>Mar. 30, 1911.</i>					<i>Apr. 3, 1911.</i>				
Cream of wheat....	20	.40	.022	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	97.5	2.01	.231	.....	Egg.....	98	2.02	.232	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	173.5	.33	.047	.....	Orange.....	148	.29	.040	.....
Cream.....	220	.81	.167	.....	Cream.....	220	.86	.163	.....
Bread.....	150	2.40	.131	.....	Bread.....	150	2.39	.136	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Veal.....	150	5.45	.363	.....	Lamb.....	150	6.06	.347	.....
Peas.....	150	1.11	.125	.0156	Peas.....	150	1.18	.127	.0147
String beans.....	150	.41	.041	.....	Beets.....	20	.05	.009	.....
Boiled potato.....	150	.44	.104	.....	Mashed potato.....	150	.44	.088	.....
Peaches.....	420	.46	.074	.....	Rice pudding.....	300	1.95	.325	.....
Water (c. c.).....	1,680	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Sugar.....	55	.....	.....	.....	Sugar.....	27	.....	.....	.....
Total.....	3,570	13.93	1.332	.0156	Total.....	3,260	15.85	1.587	.0147
<i>Mar. 31, 1911.</i>					<i>Apr. 4, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat....	20	.38	.022	.....
Egg.....	99	2.04	.235	.....	Egg.....	104	2.14	.246	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	136	.26	.037	.....	Orange.....	175	.33	.047	.....
Cream.....	210	.76	.163	.....	Cream.....	260	1.01	.195	.....
Bread.....	150	2.34	.140	.....	Bread.....	150	2.46	.139	.....
Jelly (grape).....	80	.04	.012	.....	Jelly (apple).....	80	.01	.005	.....
Lamb.....	150	5.42	.315	.....	Beef.....	150	6.11	.321	.....
Peas.....	150	1.14	.127	.0176	Peas.....	150	1.04	.125	.0146
Corn.....	150	.54	.098	.....	Lima beans.....	200	2.74	.220	.....
Mashed potato.....	150	.42	.090	.....	Potato.....	150	.42	.090	.....
Cherries.....	270	.36	.053	.....	Strawberries.....	300	.48	.088	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	1,440	.....	.....	.....
Sugar.....	24.5	.....	.....	.....	Sugar.....	28	.....	.....	.....
Total.....	3,100	13.90	1.378	.0176	Total.....	3,280	17.19	1.513	.0146
<i>Apr. 1, 1911.</i>					<i>Apr. 5, 1911.</i>				
Cream of wheat....	20	.40	.022	.....	Oatmeal.....	20	.50	.093	.....
Egg (estimated)....	98	2.02	.232	.....	Egg.....	98	2.02	.232	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.19	.037	.....	Sliced bananas.....	110	.21	.029	.....
Cream.....	220	.84	.162	.....	Cream.....	210	.74	.158	.....
Bread.....	150	2.22	.127	.....	Bread.....	150	2.48	.134	.....
Jelly (apple).....	80	.01	.005	.....	Jelly (grape).....	80	.03	.012	.....
Beef.....	150	5.93	.321	.....	Fowl.....	150	5.69	.324	.....
Peas.....	150	1.11	.123	.0180	Peas.....	150	1.16	.126	.0164
Boiled potato.....	150	.53	.068	.....	Hominy.....	150	.56	.016	.....
Rice, steamed.....	150	.42	.030	.....	Sweet potato.....	30	.05	.013	.....
Pears.....	420	.26	.053	.....	Water ice.....	200	.02	.011	.....
Water (c. c.).....	1,920	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Sugar.....	28	.....	.....	.....	Sugar.....	44	.....	.....	.....
Total.....	3,720	14.01	1.195	.0180	Total.....	3,140	13.54	1.163	.0164

CHART I.—Diet—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 6, 1911.</i>					<i>Apr. 10, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	20	0.40	0.022	.....	Oatmeal.....	20	0.50	0.093	.....
Egg.....	92.5	1.91	.219	.....	Egg.....	106.5	2.19	.253	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	125.5	.24	.034	.....	Orange.....	114.5	.22	.031	.....
Cream.....	220	.84	.165	.....	Cream.....	220	.81	.158	.....
Bread.....	150	2.25	.136	.....	Bread.....	150	2.22	.131	.....
Jelly (apple).....	80	.01	.005	.....	Jelly (apple).....	80	.01	.005	.....
Veal.....	150	5.51	.344	.....	Lamb.....	150	5.60	.321	.....
Peas.....	150	1.16	.123	0.0182	Peas.....	150	1.13	.118	0.0156
String beans.....	150	.41	.038	.....	Beets.....	20	.07	.009	.....
Boiled potato.....	150	.56	.063	.....	Mashed potato.....	150	.50	.090	.....
Peaches.....	420	.46	.074	.....	Rice pudding.....	300	1.80	.320	.....
Water (c. c.).....	1,610	.....	.....	.....	Water (c. c.).....	2,160	.....	.....	.....
Sugar.....	35.5	.....	.....	.....	Sugar.....	26	.....	.....	.....
Total.....	3,460	13.83	1.238	.0182	Total.....	3,720	15.13	1.544	.0156
<i>Apr. 7, 1911.</i>					<i>Apr. 11, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	95	1.96	.225	.....	Egg.....	94	1.94	.223	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.26	.032	.....	Orange.....	168.5	.32	.046	.....
Cream.....	210	.74	.160	.....	Cream.....	260	.99	.191	.....
Bread.....	150	2.60	.142	.....	Bread.....	150	2.46	.143	.....
Jelly (apple).....	80	.01	.005	.....	Jelly (grape).....	80	.03	.012	.....
Lamb.....	150	5.40	.318	.....	Beef.....	150	5.55	.315	.....
Peas.....	150	1.11	.130	.0170	Peas.....	150	1.08	.119	.0174
Corn.....	150	.53	.105	.....	Lima beans.....	200	2.54	.204	.....
Mashed potato.....	150	.45	.096	.....	Boiled potato.....	150	.57	.089	.....
Cherries.....	271	.36	.054	.....	Strawberries.....	300	.51	.088	.....
Water (c. c.).....	2,880	.....	.....	.....	Water (c. c.).....	2,160	.....	.....	.....
Sugar.....	36.5	.....	.....	.....	Sugar.....	31	.....	.....	.....
Total.....	4,520	14.00	1.375	.0170	Total.....	3,980	16.47	1.467	.0174
<i>Apr. 8, 1911.</i>					<i>Apr. 12, 1911.</i>				
Cream of wheat.....	20	.40	.022	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	89.5	1.84	.212	.....	Egg.....	92.5	1.91	.219	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	133.5	.26	.036	.....	Sliced bananas.....	110	.20	.043	.....
Cream.....	220	.84	.163	.....	Cream.....	210	.80	.162	.....
Bread.....	150	2.37	.134	.....	Bread.....	150	2.34	.143	.....
Jelly (apple).....	80	.01	.005	.....	Jelly (apple).....	80	.01	.005	.....
Beef.....	150	5.85	.321	.....	Fowl.....	150	5.51	.311	.....
Peas.....	150	1.11	.125	.0158	Peas.....	150	1.11	.130	.0176
Potato.....	150	.50	.106	.....	Hominy.....	150	.62	.021	.....
Rice, steamed.....	150	.62	.048	.....	Sweet potato.....	30	.05	.015	.....
Pears.....	420	.25	.053	.....	Water ice.....	200	.02	.011	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Sugar.....	27	.....	.....	.....	Sugar.....	50	.....	.....	.....
Total.....	3,250	14.13	1.240	.0158	Total.....	3,140	13.15	1.168	.0176
<i>Apr. 9, 1911.</i>					<i>Apr. 13, 1911.</i>				
Cream of wheat.....	20	.40	.022	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	101	2.08	.239	.....	Egg.....	101.5	2.09	.241	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	198.5	.38	.054	.....	Orange.....	155.5	.30	.042	.....
Cream.....	210	.84	.160	.....	Cream.....	220	.81	.167	.....
Bread.....	150	2.46	.136	.....	Bread.....	150	2.52	.138	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Fowl.....	150	5.32	.312	.....	Veal.....	150	5.72	.341	.....
Peas.....	150	1.11	.120	.0177	Peas.....	150	1.13	.120	.0173
Celery.....	20	.02	.007	.....	String beans.....	150	.41	.039	.....
Boiled potato.....	150	.36	.096	.....	Boiled potato.....	150	.35	.075	.....
Ice cream.....	240	.89	.174	.....	Peaches.....	420	.46	.074	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	1,440	.....	.....	.....
Sugar.....	31	.....	.....	.....	Sugar.....	24.5	.....	.....	.....
Total.....	3,010	13.97	1.347	.0177	Total.....	3,280	14.30	1.286	.0173

CHART I.—*Diet*—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 14, 1911.</i>					<i>Apr. 18, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	Cream of wheat....	20	0.40	0.022	.....
Egg.....	98.5	2.03	.233	.....	Egg.....	105	2.16	.249	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.21	.031	.....	Orange.....	160	.30	.043	.....
Cream.....	210	.90	.167	.....	Cream.....	260	.96	.198	.....
Bread.....	150	2.45	.140	.....	Bread.....	150	2.43	.144	.....
Jelly (apple).....	80	.01	.005	.....	Jelly (apple).....	80	.01	.005	.....
Lamb.....	150	5.00	.311	.....	Beef.....	150	5.48	.321	.....
Peas.....	150	1.13	.125	0.0164	Peas.....	150	.98	.125	0.0164
Corn.....	150	.60	.097	.....	Lima beans.....	200	2.64	.225	.....
Mashed potato.....	150	.47	.088	.....	Potato.....	150	.59	.071	.....
Cherries.....	270.5	.36	.054	.....	Strawberries.....	300	.63	.088	.....
Water (c. c.).....	1,640	.....	.....	.....	Water (c. c.).....	1,360	.....	.....	.....
Sugar.....	54	.....	.....	.....	Sugar.....	31	.....	.....	.....
Total.....	3,300	13.74	1.359	.0164	Total.....	3,190	16.66	1.506	.0164
<i>Apr. 15, 1911.</i>					<i>Apr. 19, 1911.</i>				
Cream of wheat....	20	.40	.022	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	87.5	1.80	.207	.....	Egg.....	117.4	2.42	.278	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	170	.32	.046	.....	Sliced bananas.....	110	.19	.031	.....
Cream.....	220	.86	.167	.....	Cream.....	210	.82	.163	.....
Bread.....	150	2.46	.143	.....	Bread.....	150	2.36	.134	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (apple).....	80	.01	.005	.....
Beef.....	150	6.00	.335	.....	Fowl.....	150	5.37	.321	.....
Peas.....	150	1.11	.127	0.0140	Peas.....	150	.83	.128	0.0159
Boiled potato.....	150	.44	.088	.....	Hominy.....	150	.65	.020	.....
Rice, steamed.....	150	.54	.041	.....	Sweet potato.....	30	.06	.018	.....
Pears.....	420	.25	.053	.....	Water ice.....	200	.02	.011	.....
Carbonated water (c. c.).....	240	.....	.....	.....	Water (c. c.).....	1,440	.....	.....	.....
Water (c. c.).....	1,440	.....	.....	.....	Sugar.....	28	.....	.....	.....
Sugar.....	27	.....	.....	.....	Total.....	2,910	13.31	1.217	.0159
Total.....	3,530	14.29	1.256	.0140	<i>Apr. 20, 1911.</i>				
<i>Apr. 16, 1911.</i>					Cream of wheat....	20	.40	.022	.....
Cream of wheat....	20	.40	.022	.....	Egg.....	106	2.18	.251	.....
Egg.....	89	1.83	.211	.....	Butter.....	70	.08	.015	.....
Butter.....	70	.08	.015	.....	Orange.....	140	.27	.038	.....
Orange.....	217	.41	.059	.....	Cream.....	220	.79	.160	.....
Cream.....	210	.74	.160	.....	Bread.....	150	2.31	.140	.....
Bread.....	150	2.42	.147	.....	Jelly (apple).....	80	.01	.005	.....
Jelly (apple).....	80	.01	.005	.....	Veal.....	150	5.31	.360	.....
Fowl.....	150	5.55	.318	.....	Peas.....	150	.86	.125	0.0119
Peas.....	150	1.10	.130	0.0152	String beans.....	150	.45	.051	.....
Celery.....	20	.03	.006	.....	Potato.....	150	.36	.092	.....
Boiled potato.....	150	.36	.076	.....	Peaches.....	420	.46	.074	.....
Ice cream.....	240	.86	.178	.....	Water (c. c.).....	1,440	.....	.....	.....
Water (c. c.).....	1,800	.....	.....	.....	Sugar.....	30.5	.....	.....	.....
Sugar.....	26	.....	.....	.....	Total.....	3,280	13.48	1.333	.0119
Total.....	3,370	13.79	1.327	.0152	<i>Apr. 21, 1911.</i>				
<i>Apr. 17, 1911.</i>					Oatmeal.....	20	.40	.093	.....
Oatmeal.....	20	.50	.093	.....	Egg.....	97	2.00	.230	.....
Egg.....	95	1.96	.225	.....	Butter.....	70	.08	.015	.....
Butter.....	70	.08	.015	.....	Sliced bananas.....	110	.22	.025	.....
Orange.....	129	.25	.035	.....	Cream.....	210	.71	.154	.....
Cream.....	220	.84	.165	.....	Bread.....	150	2.37	.144	.....
Bread.....	150	2.33	.138	.....	Jelly (apple).....	80	.01	.005	.....
Jelly (apple).....	80	.01	.005	.....	Lamb.....	150	5.28	.335	.....
Lamb.....	150	6.11	.354	.....	Peas.....	150	1.11	.126	0.0117
Peas.....	150	1.11	.123	0.0143	Corn.....	150	.60	.106	.....
Beets.....	20	.06	.013	.....	Mashed potato.....	150	.39	.084	.....
Mashed potato.....	150	.56	.109	.....	Cherries.....	277	.36	.055	.....
Rice pudding.....	300	1.65	.330	.....	Water (c. c.).....	1,440	.....	.....	.....
Water (c. c.).....	1,440	.....	.....	.....	Sugar.....	24	.....	.....	.....
Sugar.....	27.5	.....	.....	.....	Total.....	3,080	13.53	1.372	.0117
Total.....	3,000	15.46	1.605	.0143					

CHART I.—Diet—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 22, 1911.</i>					<i>Apr. 26, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	20	0.40	0.022	.....	Oatmeal.....	20	0.50	0.093	.....
Egg.....	100.5	2.07	.238	.....	Egg.....	102	2.10	.242	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	157	.30	.042	.....	Sliced bananas.....	110	.21	.038	.....
Cream.....	220	.73	.162	.....	Cream.....	210	.82	.162	.....
Bread.....	150	2.40	.143	.....	Bread.....	150	2.27	.140	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Beef.....	150	5.84	.315	.....	Fowl.....	150	5.48	.324	.....
Peas.....	150	1.11	.119	0.0122	Peas.....	150	1.14	.127	0.0128
Boiled potato.....	150	.38	.090	.....	Hominy.....	150	.57	.021	.....
Rice, steamed.....	150	.51	.045	.....	Sweet potato.....	30	.09	.017	.....
Pears.....	420	.25	.053	.....	Water ice.....	200	.02	.011	.....
Water (c. c.).....	1,680	.....	.....	.....	Water (c. c.).....	2,400	.....	.....	.....
Sugar.....	30	.....	.....	.....	Sugar.....	52	.....	.....	.....
Total.....	3,530	14.10	1.256	.0122	Total.....	3,870	13.31	1.202	.0128
<i>Apr. 23, 1911.</i>					<i>Apr. 27, 1911.</i>				
Cream of wheat.....	20	.40	.022	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	100	2.06	.237	.....	Egg.....	103	2.12	.244	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	180	.34	.049	.....	Orange.....	148	.29	.040	.....
Cream.....	210	.76	.154	.....	Cream.....	220	.81	.167	.....
Bread.....	150	2.37	.138	.....	Bread.....	150	2.33	.148	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Fowl.....	150	5.39	.311	.....	Veal.....	150	5.57	.354	.....
Peas.....	150	1.07	.119	.0102	Peas.....	150	1.11	.123	.0144
Celery.....	20	.03	.006	.....	String beans.....	150	.45	.046	.....
Boiled potato.....	150	.42	.075	.....	Boiled potato.....	150	.39	.081	.....
Ice cream.....	240	.86	.168	.....	Peaches.....	420	.46	.074	.....
Water (c. c.).....	1,680	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Sugar.....	32	.....	.....	.....	Sugar.....	28	.....	.....	.....
Total.....	3,230	13.81	1.306	.0102	Total.....	3,520	14.04	1.326	.0144
<i>Apr. 24, 1911.</i>					<i>Apr. 28, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	100.5	2.07	.238	.....	Egg.....	97	2.00	.230	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	203.5	.39	.055	.....	Sliced bananas.....	110	.24	.028	.....
Cream.....	220	.84	.169	.....	Cream.....	210	.82	.167	.....
Bread.....	150	2.16	.142	.....	Bread.....	150	2.40	.145	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (grape).....	80	.03	.012	.....
Lamb.....	150	5.27	.324	.....	Lamb.....	150	5.61	.324	.....
Peas.....	150	1.18	.125	.0125	Peas.....	150	1.19	.131	.0089
Beets.....	20	.04	.012	.....	Corn.....	150	.65	.105	.....
Mashed potato.....	150	.45	.086	.....	Potato.....	150	.50	.090	.....
Rice pudding.....	300	1.86	.315	.....	Cherries.....	272	.36	.054	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	1,920	.....	.....	.....
Sugar.....	37	.....	.....	.....	Sugar.....	41	.....	.....	.....
Total.....	3,090	14.87	1.586	.0125	Total.....	3,570	14.38	1.394	.0089
<i>Apr. 25, 1911.</i>					<i>Apr. 29, 1911.</i>				
Cream of wheat.....	20	.40	.022	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	100.5	2.07	.238	.....	Egg.....	95	1.96	.225	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	165	.31	.045	.....	Orange.....	163.5	.31	.044	.....
Cream.....	260	.96	.193	.....	Cream.....	220	.81	.163	.....
Bread.....	150	2.46	.145	.....	Bread.....	150	2.45	.144	.....
Jelly (apple).....	80	.01	.005	.....	Jelly (apple).....	80	.01	.005	.....
Beef.....	150	5.33	.329	.....	Beef.....	150	5.78	.311	.....
Peas.....	150	1.13	.123	.0129	Peas.....	150	1.23	.132	.0138
Lima beans.....	200	2.56	.224	.....	Mashed potato.....	150	.39	.085	.....
Boiled potato.....	150	.44	.094	.....	Rice, steamed.....	150	.48	.038	.....
Strawberries.....	300	.63	.088	.....	Pears.....	420	.25	.053	.....
Water (c. c.).....	1,920	.....	.....	.....	Water (c. c.).....	2,400	.....	.....	.....
Sugar.....	42.5	.....	.....	.....	Sugar.....	33	.....	.....	.....
Total.....	3,760	16.38	1.521	.0129	Total.....	4,250	14.15	1.237	.0138

CHART I.—Diet—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 30, 1911.</i>					<i>May 4, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	20	0.40	0.022	.....	Cream of wheat.....	20	0.40	0.022	.....
Egg.....	101	2.08	.239	.....	Egg.....	100	2.06	.237	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	189	.36	.051	.....	Orange.....	219	.42	.059	.....
Cream.....	210	.80	.162	.....	Cream.....	220	.84	.160	.....
Bread.....	150	2.43	.143	.....	Bread.....	150	2.22	.136	.....
Jelly (apple).....	80	.01	.005	.....	Jelly (apple).....	80	.01	.005	.....
Fowl.....	150	5.58	.318	.....	Veal.....	150	5.58	.363	.....
Peas.....	150	1.10	.123	0.0132	Peas.....	150	1.07	.090	0.0123
Celery.....	20	.02	.005	.....	String beans.....	150	.42	.060	.0059
Boiled potato.....	150	.50	.086	.....	Boiled potato.....	75	.20	.041	.....
Ice cream.....	240	.89	.168	.....	Peaches.....	420	.46	.074	.....
Water (c. c.).....	1,440	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Sugar.....	36.5	.....	.....	.....	Sugar.....	39	.....	.....	.....
Total.....	3,010	14.25	1.337	.0132	Total.....	3,520	13.76	1.262	.0182
<i>May 1, 1911.</i>					<i>May 5, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	108.5	2.23	.257	.....	Egg.....	106	2.18	.251	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	163	.31	.044	.....	Sliced bananas.....	110	.22	.031	.....
Cream.....	220	.81	.171	.....	Cream.....	210	.84	.160	.....
Bread.....	150	2.30	.148	.....	Bread.....	150	2.64	.142	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (apple).....	80	.01	.005	.....
Lamb.....	150	5.40	.335	.....	Lamb.....	150	5.43	.338	.....
Peas.....	150	1.10	.126	.0111	Peas.....	150	1.10	.093	.0135
Beets.....	20	.06	.010	.....	String beans.....	150	.44	.059	.0071
Mashed potato.....	150	.47	.084	.....	Mashed potato.....	75	.24	.043	.....
Rice pudding.....	300	2.31	.330	.....	Peaches.....	420	.46	.074	.....
Water (c. c.).....	1,920	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Sugar.....	29	.....	.....	.....	Sugar.....	53	.....	.....	.....
Total.....	3,530	15.60	1.625	.0111	Total.....	3,420	14.14	1.304	.0206
<i>May 2, 1911.</i>					<i>May 6, 1911.</i>				
Cream of wheat.....	20	.40	.022	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	102	2.10	.242	.....	Egg.....	106	2.18	.251	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	226.5	.43	.061	.....	Orange.....	297	.56	.080	.....
Cream.....	260	1.12	.209	.....	Cream.....	220	.92	.177	.....
Bread.....	150	2.43	.145	.....	Bread.....	150	2.49	.135	.....
Jelly (grape).....	80	.03	.012	.....	Jelly (apple).....	80	.01	.005	.....
Beef.....	150	5.52	.315	.....	Beef.....	150	5.73	.324	.....
Peas.....	150	1.13	.126	.0138	Peas.....	150	.95	.094	.0125
Lima beans.....	200	1.98	.176	.....	String beans.....	150	.48	.063	.0074
Boiled potato.....	150	.39	.084	.....	Potato.....	75	.30	.050	.....
Strawberries.....	300	.45	.088	.....	Pears.....	420	.25	.053	.....
Water (c. c.).....	1,920	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Sugar.....	8	.....	.....	.....	Sugar.....	29	.....	.....	.....
Total.....	3,790	16.06	1.495	.0138	Total.....	3,600	14.35	1.269	.0199
<i>May 3, 1911.</i>					<i>May 7, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat.....	20	.40	.022	.....
Egg.....	103	2.12	.244	.....	Egg.....	98	2.02	.232	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.21	.043	.....	Orange.....	286	.54	.077	.....
Cream.....	210	.80	.160	.....	Cream.....	210	.84	.167	.....
Bread.....	150	2.55	.140	.....	Bread.....	150	2.51	.132	.....
Jelly (apple).....	80	.01	.005	.....	Jelly (grape).....	80	.03	.012	.....
Fowl.....	150	5.43	.324	.....	Fowl.....	150	6.05	.321	.....
Peas.....	150	1.07	.093	.0119	Peas.....	150	1.05	.093	.0116
String beans.....	150	.44	.055	.0074	String beans.....	150	.47	.059	.0063
Hominy.....	75	.35	.010	.....	Boiled potato.....	75	.23	.043	.....
Sweet potato.....	30	.05	.013	.....	Ice cream.....	240	.82	.161	.....
Water ice.....	50	.01	.003	.....	Water (c. c.).....	1,440	.....	.....	.....
Water (c. c.).....	1,440	.....	.....	.....	Sugar.....	37	.....	.....	.....
Sugar.....	55.5	.....	.....	.....	Total.....	3,160	15.04	1.339	.0179
Total.....	2,840	13.62	1.198	.0193	Total.....	3,160	15.04	1.339	.0179

CHART I.—*Diet*—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>May 8, 1911.</i>					<i>May 12, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	Oatmeal.....	20	0.50	0.093	.....
Egg.....	115.5	2.38	.274	.....	Egg.....	103	2.12	.244	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	206	.39	.056	.....	Sliced bananas.....	110	.15	.033	.....
Cream.....	220	.81	.162	.....	Cream.....	210	.76	.158	.....
Bread.....	150	2.46	.151	.....	Bread.....	150	2.42	.151	.....
Jelly (grape).....	80	.03	.012	.....	Jelly.....	80	.03	.005	.....
Lamb.....	150	5.57	.318	.....	Lamb.....	150	5.81	.332	.....
Peas.....	150	.96	.090	0.0110	Peas.....	150	1.11	.092	0.0146
String beans.....	150	.48	.077	.0072	String beans.....	150	.45	.059	.0068
Mashed potato.....	75	.23	.048	.....	Potato.....	75	.24	.053	.....
Rice pudding.....	300	1.95	.322	.....	Peaches.....	420	.46	.074	.....
Water (c. c.).....	1,680	.....	.....	.....	Water (c. c.).....	2,400	.....	.....	.....
Sugar.....	35	.....	.....	.....	Sugar.....	32	.....	.....	.....
Total.....	3,400	15.84	1.618	.0182	Total.....	4,120	14.13	1.309	.0214
<i>May 9, 1911.</i>					<i>May 13, 1911.</i>				
Cream of wheat....	20	.40	.022	.....	Oatmeal.....	20	.40	.093	.....
Egg.....	43.5	1.00	.115	.....	Egg.....	101	2.08	.239	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	209	.40	.056	.....	Orange.....	210	.40	.057	.....
Cream.....	260	.96	.195	.....	Cream.....	220	.73	.151	.....
Bread.....	150	2.43	.151	.....	Bread.....	150	2.40	.145	.....
Jelly (grape).....	80	.03	.012	.....	Jelly.....	80	.03	.005	.....
Beef.....	150	5.93	.315	.....	Beef.....	150	5.87	.311	.....
Peas.....	150	1.08	.102	.0138	Peas.....	150	1.08	.098	.0123
String beans.....	150	.42	.056	.0060	String beans.....	150	.44	.058	.0078
Potato.....	75	.24	.053	.....	Potato.....	75	.23	.048	.....
Strawberries.....	300	.54	.088	.....	Pears.....	420	.25	.053	.....
Water (c. c.).....	2,400	.....	.....	.....	Water (c. c.).....	2,400	.....	.....	.....
Sugar.....	25	.....	.....	.....	Sugar.....	45	.....	.....	.....
Total.....	4,090	13.51	1.180	.0198	Total.....	4,240	13.99	1.274	.0201
<i>May 10, 1911.</i>					<i>May 14, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat....	20	.40	.022	.....
Egg.....	99	2.04	.235	.....	Egg.....	106.5	2.19	.253	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.20	.029	.....	Orange.....	156	.30	.042	.....
Cream.....	210	.82	.163	.....	Cream.....	210	.80	.158	.....
Bread.....	150	2.40	.147	.....	Bread.....	150	2.45	.149	.....
Jelly (grape).....	80	.03	.012	.....	Jelly.....	80	.03	.012	.....
Fowl.....	150	5.52	.311	.....	Fowl.....	150	5.66	.311	.....
Peas.....	150	1.05	.088	.0101	Peas.....	150	1.16	.092	.0135
String beans.....	150	.45	.059	.0074	String beans.....	150	.47	.063	.0072
Water ice.....	50	.01	.003	.....	Potato.....	75	.24	.049	.....
Water (c. c.).....	1,680	.....	.....	.....	Ice cream.....	240	.89	.180	.....
Sugar.....	77	.....	.....	.....	Water (c. c.).....	1,440	.....	.....	.....
Total.....	3,000	13.10	1.155	.0175	Sugar.....	18	.....	.....	.....
<i>May 11, 1911.</i>					Total.....	3,020	14.67	1.346	.0207
Cream of wheat....	20	.40	.022	.....	<i>May 15, 1911.</i>				
Egg.....	102	2.10	.242	.....	Oatmeal.....	20	.50	.093	.....
Butter.....	70	.08	.015	.....	Egg.....	115	2.37	.273	.....
Orange.....	278	.54	.075	.....	Butter.....	70	.08	.015	.....
Cream.....	220	.81	.167	.....	Orange.....	246.5	.47	.067	.....
Bread.....	150	2.39	.144	.....	Cream.....	220	.92	.171	.....
Jelly (apple).....	80	.01	.005	.....	Bread.....	150	2.34	.144	.....
Veal.....	150	5.93	.354	.....	Jelly.....	80	.03	.005	.....
Peas.....	150	1.05	.094	.0117	Lamb.....	150	5.76	.321	.....
String beans.....	150	.42	.060	.0072	Peas.....	150	1.14	.090	.0134
Boiled potato.....	75	.24	.043	.....	String beans.....	150	.48	.067	.0063
Peaches.....	420	.46	.074	.....	Mashed potato.....	75	.23	.044	.....
Water (c. c.).....	2,640	.....	.....	.....	Rice pudding.....	300	1.68	.309	.....
Sugar.....	29	.....	.....	.....	Water (c. c.).....	3,840	.....	.....	.....
Total.....	4,530	14.43	1.295	.0189	Sugar.....	57.5	.....	.....	.....
					Total.....	4,630	16.00	1.599	.0202

CHART I.—*Diet*—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>May 16, 1911.</i>					<i>May 20, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	20	0.40	0.022	.....	Cream of wheat....	20	0.40	0.022	.....
Egg.....	104.5	2.15	.248	.....	Egg.....	101	2.08	.239	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Orange.....	150.5	.29	.041	.....	Orange.....	150	.29	.041	.....
Cream.....	210	.80	.162	.....	Cream.....	220	.90	.179	.....
Bread.....	150	2.36	.147	.....	Bread.....	150	2.33	.155	.....
Jelly.....	80	.03	.005	.....	Jelly.....	80	.03	.012	.....
Beef.....	150	5.79	.315	.....	Beef.....	150	5.52	.335	.....
Peas.....	150	1.05	.096	0.0135	Peas.....	150	.86	.094	.....
String beans.....	150	.44	.060	.0075	String beans.....	150	.42	.067	.....
Boiled potato.....	75	.18	.053	.....	Boiled potato.....	75	.23	.053	.....
Strawberries.....	300	.66	.088	.....	Pears.....	420	.25	.053	.....
Water (c. c.).....	1,680	.....	.....	.....	Water (c. c.).....	1,920	.....	.....	.....
Sugar.....	40	.....	.....	.....	Sugar.....	42	.....	.....	.....
Total.....	3,330	14.23	1.252	.0210	Total.....	3,700	13.39	1.265	.....
<i>May 17, 1911.</i>					<i>May 21, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat....	20	.30	.022	.....
Egg.....	101.5	2.09	.241	.....	Egg.....	99	2.04	.235	.....
Butter.....	70	.08	.015	.....	Butter.....	70	.08	.015	.....
Sliced bananas.....	110	.23	.036	.....	Orange.....	162	.30	.044	.....
Cream.....	210	.80	.162	.....	Cream.....	210	.82	.160	.....
Bread.....	150	2.37	.145	.....	Bread.....	150	2.54	.155	.....
Jelly.....	80	.03	.012	.....	Jelly.....	80	.03	.005	.....
Fowl.....	150	5.30	.302	.....	Fowl.....	150	5.79	.315	.....
Peas (American)....	150	.84	.094	.....	Peas.....	150	.86	.098	.....
String beans.....	150	.45	.064	.....	String beans.....	150	.44	.055	.....
Water ice.....	50	.01	.003	.....	Boiled potato.....	75	.28	.048	.....
Water (c. c.).....	1,680	.....	.....	.....	Ice cream.....	240	.86	.174	.....
Sugar.....	70	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Total.....	2,990	12.70	1.167	.....	Sugar.....	27.5	.....	.....	.....
<i>May 18, 1911.</i>					Total.....	3,260	14.34	1.326	.....
Cream of wheat....	20	.40	.022	.....	<i>May 22, 1911.</i>				
Egg.....	93.5	1.93	.222	.....	Oatmeal.....	20	.50	.093	.....
Butter.....	20	.02	.004	.....	Egg.....	92.3	1.91	.219	.....
Orange.....	165	.31	.045	.....	Butter.....	70	.08	.015	.....
Cream.....	220	.84	.175	.....	Orange.....	140	.27	.038	.....
Bread.....	150	2.43	.151	.....	Cream.....	220	.84	.169	.....
Jelly.....	80	.03	.005	.....	Bread.....	150	2.43	.151	.....
Veal.....	150	5.93	.351	.....	Jelly.....	80	.03	.005	.....
Peas.....	150	.83	.093	.....	Lamb.....	150	4.89	.311	.....
String beans.....	150	.44	.052	.....	Peas.....	150	.90	.096	.....
Potato.....	75	.16	.039	.....	String beans.....	150	.45	.063	.....
Peaches.....	420	.46	.074	.....	Mashed potato.....	75	.26	.042	.....
Water (c. c.).....	1,920	.....	.....	.....	Rice pudding.....	300	1.86	.301	.....
Sugar.....	41	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Total.....	3,660	13.78	1.233	.....	Sugar.....	26.5	.....	.....	.....
<i>May 19, 1911.</i>					Total.....	3,310	14.42	1.503	.....
Oatmeal.....	20	.50	.093	.....	<i>May 23, 1911.</i>				
Egg.....	96.5	1.99	.229	.....	Cream of wheat....	20	.40	.022	.....
Butter.....	70	.08	.015	.....	Egg.....	100	2.06	.237	.....
Sliced bananas.....	110	.20	.027	.....	Butter.....	70	.08	.015	.....
Cream.....	210	.76	.167	.....	Orange.....	195	.37	.053	.....
Bread.....	150	2.45	.155	.....	Cream ¹	210	.78	.163	.....
Jelly.....	80	.03	.005	.....	Bread.....	150	2.36	.139	.....
Lamb.....	150	4.95	.306	.....	Jelly.....	80	.03	.012	.....
Peas.....	150	.83	.089	.....	Beef.....	150	6.09	.318	.....
String beans.....	150	.42	.062	.....	Peas.....	150	.92	.090	.....
Potato.....	75	.20	.041	.....	String beans.....	150	.45	.052	.....
Peaches.....	420	.46	.074	.....	Potato.....	75	.22	.037	.....
Water (c. c.).....	1,920	.....	.....	.....	Strawberries.....	300	.54	.088	.....
Sugar.....	59	.....	.....	.....	Water (c. c.).....	1,680	.....	.....	.....
Total.....	3,660	12.87	1.263	.....	Sugar.....	28	.....	.....	.....
					Total.....	3,360	14.30	1.226	.....

¹50 c. c. cream was soured at evening meal and not eaten.

CHART I.—Diet—Continued.

SUBJECT No. 2—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 24, 1911.</i>					<i>May 27, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	String beans.....	75	0.20	0.030	.....
Egg.....	106	2.18	.251	.....	Potato.....	75	.28	.025	.....
Butter.....	70	.08	.015	.....	Pears.....	420	.25	.053	.....
Sliced bananas.....	110	.20	.031	.....	Water (c. c.).....	1,680	.....	.....	.....
Cream.....	210	.82	.163	.....	Sugar.....	27.5	.....	.....	.....
Bread.....	150	2.49	.144	.....	Total.....	3,330	14.07	1.230	.....
Jelly.....	80	.03	.005	.....	<i>May 28, 1911.</i>				
Fowl.....	150	5.52	.302	.....	Cream of wheat...	20	.40	.022	.....
Peas.....	150	.83	.094	.....	Egg.....	96	1.98	.228	.....
String beans.....	105	.32	.040	.....	Butter.....	70	.13	.015	.....
Water ice.....	50	.01	.003	.....	Orange.....	104	.20	.028	.....
Water (c. c.).....	1,680	.....	.....	.....	Cream.....	162	.58	.127	.....
Sugar.....	55.5	.....	.....	.....	Bread.....	150	2.40	.156	.....
Total.....	2,940	12.98	1.141	.....	Jelly.....	80	.03	.005	.....
<i>May 25, 1911.</i>					Fowl.....	150	5.57	.306	.....
Cream of wheat....	20	.40	.022	.....	Peas.....	150	.81	.093	.....
Egg.....	105	2.16	.249	.....	String beans.....	175	.23	.026	.....
Butter.....	70	.08	.015	.....	Potato.....	75	.30	.029	.....
Orange.....	214.5	.41	.058	.....	Ice cream.....	2.40	.84	.159	.....
Cream.....	220	.86	.171	.....	Water (c. c.).....	1,680	.....	.....	.....
Bread.....	150	2.39	.143	.....	Sugar.....	18	.....	.....	.....
Jelly.....	80	.03	.005	.....	Total.....	3,170	13.47	1.194	.....
Veal.....	150	6.09	.351	.....	<i>May 29, 1911.</i>				
Peas.....	150	.86	.101	.....	Oatmeal.....	20	.50	.093	.....
String beans.....	150	.45	.054	.....	Egg.....	99	2.04	.235	.....
Potato.....	75	.30	.040	.....	Butter.....	70	.08	.015	.....
Peaches.....	420	.46	.074	.....	Orange.....	151	.29	.041	.....
Water (c. c.).....	1,680	.....	.....	.....	Cream.....	220	.84	.165	.....
Sugar.....	31	.....	.....	.....	Bread.....	150	2.34	.142	.....
Total.....	3,520	14.49	1.283	.....	Jelly.....	80	.03	.012	.....
<i>May 26, 1911.</i>					Lamb.....	150	5.67	.332	.....
Cream of wheat....	20	.40	.022	.....	Peas.....	150	.81	.101	.....
Egg.....	104	2.14	.247	.....	String beans.....	75	.25	.026	.....
Butter.....	70	.08	.015	.....	Mashed potato.....	75	.23	.026	.....
Sliced bananas.....	110	.20	.027	.....	Rice pudding.....	300	2.34	.315	.....
Cream.....	210	.80	.160	.....	Water (c. c.).....	1,920	.....	.....	.....
Bread.....	150	2.43	.139	.....	Sugar.....	38.5	.....	.....	.....
Jelly.....	80	.03	.012	.....	Total.....	3,500	15.42	1.503	.....
Lamb.....	150	5.43	.324	.....	<i>May 30, 1911.</i>				
Peas.....	150	.89	.097	.....	Cream of wheat....	20	.40	.022	.....
String beans.....	75	.23	.026	.....	Egg.....	98	2.02	.232	.....
Potato.....	75	.23	.025	.....	Butter.....	70	.08	.015	.....
Peaches.....	420	.46	.074	.....	Orange.....	158	.30	.043	.....
Water (c. c.).....	1,440	.....	.....	.....	Cream (40 short)...	210	.80	.160	.....
Sugar.....	42.5	.....	.....	.....	Bread.....	150	2.45	.145	.....
Total.....	3,100	13.32	1.168	.....	Jelly.....	80	.03	.005	.....
<i>May 27, 1911.</i>					Beef.....	150	5.84	.318	.....
Oatmeal.....	20	.50	.093	.....	Peas.....	150	.78	.097	.....
Egg.....	107.5	2.21	.255	.....	String beans.....	75	.23	.024	.....
Butter.....	70	.08	.015	.....	Potato.....	75	.22	.028	.....
Orange.....	108	.21	.029	.....	Strawberries.....	300	.54	.088	.....
Cream.....	220	.81	.163	.....	Water (c. c.).....	1,920	.....	.....	.....
Bread.....	150	2.37	.148	.....	Sugar.....	23.5	.....	.....	.....
Jelly.....	80	.03	.005	.....	Total.....	3,480	13.69	1.177	.....
Beef.....	150	6.25	.318	.....				
Peas.....	150	.90	.096	.....				

CHART I.—*Diet*—Continued.

SUBJECT No. 3 (O. H. C.).

Food.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Cream of wheat.....	15		15		15		15
Oatmeal.....		15		15		15	
Egg.....	1	1	1	1	1	1	1
Butter.....	30	30	30	30	30	30	30
Cream.....	130	130	130	130	130	130	130
Bread.....	180	180	180	180	180	180	180
Jelly.....	100	100	100	100	100	100	100
Beef.....			160				160
Fowl.....	160			160			
Veal.....					160		
Lamb.....		160				160	
Peas.....	150	150	150	150	150	150	150
Beets.....		100					
Lima beans.....			100				
String beans.....					100		
Corn.....						100	
Celery.....	100						
Hominy.....				100			
Mashed or boiled potato.....	100	100	100		100	100	100
Sweet potato.....				100			
Rice, steamed.....		200					100
Rice pudding.....							
Ice cream.....	200						
Water ice.....				200			
Peaches.....					200		
Pears.....							200
Cherries.....						200	
Strawberries.....			200				
Water (c. c.) ¹							

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
<i>Mar. 1, 1911.</i>					<i>May 3, 1911—Con.</i>				
Oatmeal.....	15	0.38	0.070		Corn.....	100	0.37	0.073	
Egg.....	59	1.22	.140		Mashed potato.....	100	.35	.063	
Butter.....	30	.03	.007		Cherries.....	192	.25	.038	
Cream.....	130	.49	.101		Water (c. c.).....	1,000			
Bread.....	180	2.88	.151		Total.....	2,220	12.28	1.107	
Jelly (grape).....	100	.04	.015						
Fowl.....	160	4.56	.363		<i>Mar. 4, 1911.</i>				
Peas.....	150	.84	.035		Cream of wheat.....	15	.30	.017	
Hominy.....	100	.39	.013		Egg.....	50.5	1.04	.120	
Mashed potato.....	100	.35	.063		Butter.....	30	.03	.007	
Water ice.....	200	.02	.011		Cream.....	130	.49	.100	
Water (c. c.).....	1,000				Bread.....	180	2.83	.206	
Total.....	2,220	11.20	1.019		Jelly (grape).....	100	.04	.015	
					Beef.....	160	5.99	.363	
<i>Mar. 2, 1911.</i>					Peas.....	150	.89	.118	
Cream of wheat.....	15	.30	.017		Boiled potato.....	100	.37	.031	
Egg.....	49	1.01	.116		Rice, steamed.....	100	.33	.027	
Butter.....	30	.03	.007		Pears.....	200	.12	.025	
Cream.....	130	.46	.104		Water (c. c.).....	1,000			
Bread.....	180	2.74	.162		Total.....	2,220	12.33	1.079	
Jelly (grape).....	100	.04	.015						
Veal.....	160	6.02	.384		<i>Mar. 5, 1911.</i>				
Peas.....	150	.87	.092		Cream of wheat.....	15	.30	.017	
String beans.....	100	.24	.030		Egg.....	60.5	1.25	.143	
Boiled potato.....	100	.36	.043		Butter.....	30	.03	.007	
Peaches.....	200	.22	.035		Cream.....	130	.49	.096	
Water (c. c.).....	1,000				Bread.....	180	2.90	.178	
Total.....	2,210	12.29	1.005		Jelly (grape).....	100	.04	.015	
					Fowl.....	160	6.21	.375	
<i>Mar. 3, 1911.</i>					Peas.....	150	.86	.096	
Oatmeal.....	15	.38	.070		Celery.....	100	.17	.028	
Egg.....	50	1.19	.137		Boiled potato.....	100	.39	.064	
Butter.....	30	.03	.007		Ice cream.....	200	.74	.145	
Cream.....	130	.53	.047		Grape juice (c. c.).....	100	.04	.007	
Bread.....	180	2.93	.176		Water (c. c.).....	900			
Jelly (grape).....	100	.04	.015		Total.....	2,230	13.42	1.171	
Lamb.....	160	5.38	.378						
Peas.....	150	.83	.093						

¹ Water 1,000 to 1,200.

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 6, 1911.</i>					<i>Mar. 10, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	15	.38	.070	.....	Lamb.....	160	5.33	0.352	.....
Egg.....	53	1.09	.126	.....	Peas.....	150	.80	.080	.....
Butter.....	30	.03	.007	.....	Corn.....	100	.42	.068	.....
Cream.....	130	.48	.097	.....	Boiled potato.....	100	.41	.057	.....
Bread.....	180	2.90	.174	.....	Cherries.....	212	.27	.042	.....
Jelly (raspberry and currant).....	100	.04	.007	.....	Water (c. c.).....	1,000	.....	.....	.....
Lamb.....	160	5.46	.357	.....	Total.....	2,230	12.37	1.101	.....
Peas.....	150	.84	.094	.....				
Beets.....	100	.26	.077	.....	<i>Mar. 11, 1911.</i>				
Mashed potato.....	100	.34	.061	.....				
Rice pudding.....	200	1.36	.239	.....	Cream of wheat.....	15	.30	.017	.....
Water (c. c.).....	1,000	.....	.....	.....	Egg.....	57	1.17	.135	.....
Total.....	2,220	13.18	1.309	.....	Butter.....	30	.03	.007	.....
<i>Mar. 7, 1911.</i>					Cream.....	130	.51	.099	.....
					Bread.....	180	3.01	.173	.....
Cream of wheat.....	15	.30	.017	.....	Jelly (grape).....	100	.04	.015	.....
Egg.....	53.5	1.10	.127	.....	Beef.....	160	5.98	.342	.....
Butter.....	30	.03	.007	.....	Peas.....	150	.81	.080	.....
Cream.....	130	.51	.099	.....	Boiled potato.....	100	.38	.065	.....
Bread.....	180	2.99	.173	.....	Rice, steamed.....	100	.35	.020	.....
Jelly (raspberry and currant).....	100	.04	.007	.....	Pears.....	200	.12	.025	.....
Beef.....	160	5.57	.343	.....	Water (c. c.).....	1,000	.....	.....	.....
Peas.....	150	.84	.089	.....	Total.....	2,220	12.70	.978	.....
Lima beans.....	100	1.11	.099	.....				
Boiled potato.....	100	.32	.066	.....	<i>Mar. 12, 1911.</i>				
Strawberries.....	200	.36	.058	.....				
Water (c. c.).....	1,000	.....	.....	.....	Cream of wheat.....	15	.30	.017	.....
Total.....	2,220	13.17	1.085	.....	Egg.....	52.5	1.08	.124	.....
<i>Mar. 8, 1911.</i>					Butter.....	30	.03	.007	.....
					Cream.....	130	.47	.093	.....
Oatmeal.....	15	.38	.070	.....	Bread.....	180	3.02	.175	.....
Egg.....	49	1.01	.116	.....	Jelly (grape).....	100	.04	.019	.....
Butter.....	30	.03	.007	.....	Fowl.....	160	5.49	.331	.....
Cream.....	130	.49	.098	.....	Peas.....	150	.81	.080	.....
Bread.....	180	3.02	.185	.....	Celery.....	100	.14	.034	.....
Jelly (raspberry and currant).....	100	.04	.007	.....	Boiled potato.....	100	.39	.066	.....
Fowl.....	160	6.27	.357	.....	Ice cream.....	200	.74	.131	.....
Peas.....	150	.87	.093	.....	Water (c. c.).....	1,000	.....	.....	.....
Hominy.....	100	.37	.014	.....	Total.....	2,220	12.51	1.077	.....
Sweet potato.....	100	.22	.042	.....				
Water ice.....	200	.02	.011	.....	<i>Mar. 13, 1911.</i>				
Water (c. c.).....	1,000	.....	.....	.....		
Total.....	2,210	12.72	1.000	.....	Oatmeal.....	15	.38	.070	.....
<i>Mar. 9, 1911.</i>					Egg.....	53	1.09	.126	.....
					Butter.....	30	.03	.007	.....
Cream of wheat.....	15	.30	.017	.....	Cream.....	130	.48	.097	.....
Egg.....	57.9	1.19	.137	.....	Bread.....	180	2.99	.174	.....
Butter.....	30	.03	.007	.....	Jelly (grape).....	100	.04	.015	.....
Cream.....	130	.51	.097	.....	Lamb.....	160	5.33	.331	.....
Bread.....	180	3.01	.176	.....	Peas.....	150	.81	.083	.....
Jelly (raspberry and currant).....	100	.04	.007	.....	Beets.....	100	.27	.086	.....
Veal.....	160	5.71	.387	.....	Mashed potato.....	100	.36	.062	.....
Peas.....	150	.78	.084	.....	Rice pudding.....	200	1.44	.280	.....
String beans.....	100	.27	.024	.....	Water (c. c.).....	1,000	.....	.....	.....
Boiled potato.....	100	.38	.064	.....	Total.....	2,220	13.22	1.331	.....
Peaches.....	200	.22	.035	.....				
Water (c. c.).....	1,000	.....	.....	.....	<i>Mar. 14, 1911.</i>				
Total.....	2,220	12.44	1.035	.....				
<i>Mar. 10, 1911.</i>					Cream of wheat.....	15	.30	.017	.....
					Egg.....	64	1.32	.152	.....
Oatmeal.....	15	.38	.070	.....	Butter.....	30	.03	.007	.....
Egg.....	57	1.17	.135	.....	Cream.....	130	.49	.098	.....
Butter.....	30	.03	.007	.....	Bread.....	180	2.99	.167	.....
Cream.....	130	.48	.097	.....	Jelly (currant and raspberry).....	100	.04	.007	.....
Bread.....	180	3.04	.178	.....	Beef.....	160	5.41	.327	.....
Jelly (grape).....	100	.04	.015	.....	Peas.....	150	.81	.084	.....
<i>Mar. 11, 1911.</i>					Lima beans.....	100	1.24	.102	.....
					Boiled potato.....	100	.34	.059	.....
Cream of wheat.....	15	.30	.017	.....	Strawberries.....	200	.28	.058	.....
Egg.....	57	1.17	.135	.....	Water (c. c.).....	1,000	.....	.....	.....
Butter.....	30	.03	.007	.....	Total.....	2,230	13.25	1.078	.....
Cream.....	130	.48	.097	.....				
Bread.....	180	3.04	.178	.....				
Jelly (grape).....	100	.04	.015	.....				

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 15, 1911.</i>					<i>Mar. 19, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	15	0.38	0.070	.....	Peas.....	150	0.81	0.080	.....
Egg.....	56	1.15	.133	.....	Celery.....	100	.19	.049	.....
Butter.....	30	.03	.007	.....	Boiled potato.....	100	.37	.073	.....
Cream.....	130	.48	.101	.....	Ice cream.....	200	.76	.143	.....
Bread.....	180	3.11	.171	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (raspberry and currant).....	100	.04	.007	.....	Total.....	2,200	13.24	1.102	.....
Fowl.....	160	5.68	.343	.....	<i>Mar. 20, 1911.</i>				
Peas.....	150	.81	.080	.....	Oatmeal.....	15	.38	.070	.....
Hominy.....	100	.33	.011	.....	Egg.....	52.5	1.08	.124	.....
Sweet potato.....	100	.25	.037	.....	Butter.....	30	.03	.007	.....
Water ice.....	200	.02	.011	.....	Cream.....	130	.51	.099	.....
Water (c. c.).....	1,000	.....	.....	.....	Bread.....	180	3.04	.162	.....
Total.....	2,220	12.28	.971	.....	Jelly (currant and raspberry).....	100	.04	.007	.....
<i>Mar. 16, 1911.</i>					Lamb.....	160	5.47	.336	.....
Cream of wheat....	15	.30	.017	.....	Peas.....	150	.80	.079	.....
Egg.....	59	1.22	.140	.....	Beets.....	100	.42	.064	.....
Butter.....	30	.03	.007	.....	Mashed potato.....	100	.32	.049	.....
Cream.....	130	.49	.101	.....	Rice pudding.....	200	1.64	.253	.....
Bread.....	180	3.01	.167	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (currant and raspberry).....	100	.04	.007	.....	Total.....	2,220	13.73	1.250	.....
Veal.....	160	5.73	.363	.....	<i>Mar. 21, 1911.¹</i>				
Peas.....	150	.78	.079	.....	Cream of wheat....	15	.30	.017	.....
String beans.....	100	.27	.028	.....	Egg.....	60.5	1.25	.143	.....
Boiled potato.....	100	.41	.060	.....	Butter.....	25	.03	.006	.....
Peaches.....	200	.22	.035	.....	Cream.....	80	.33	.064	.....
Water (c. c.).....	1,000	.....	.....	.....	Bread.....	130	2.18	.118	.....
Total.....	2,220	12.50	1.004	.....	Jelly (crab apple)..	80	.01	.006	.....
<i>Mar. 17, 1911.</i>					Beef.....	160	6.29	.343	.....
Oatmeal.....	15	.38	.070	.....	Peas.....	150	.89	.084	.....
Egg.....	60.5	1.25	.143	.....	Lima beans.....	50	.64	.050	.....
Butter.....	30	.03	.007	.....	Boiled potato.....	50	.18	.035	.....
Cream.....	130	.49	.098	.....	Strawberries.....	100	.21	.029	.....
Bread.....	180	2.99	.165	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (crab apple)..	100	.01	.006	.....	Total.....	1,900	12.31	.895	.....
Lamb.....	160	5.25	.336	.....	<i>Mar. 22, 1911.</i>				
Peas.....	150	.77	.077	.....	Oatmeal.....	15	.38	.070	.....
Corn.....	100	.33	.062	.....	Egg.....	54	1.11	.128	.....
Mashed potato.....	100	.36	.072	.....	Butter.....	30	.03	.007	.....
Cherries.....	200	.26	.040	.....	Cream.....	130	.53	.098	.....
Water (c. c.).....	1,000	.....	.....	.....	Bread.....	180	3.08	.160	.....
Total.....	2,080	12.12	1.076	.....	Jelly (crab apple)..	100	.01	.006	.....
<i>Mar. 18, 1911.</i>					Fowl.....	160	6.18	.314	.....
Cream of wheat....	15	.30	.017	.....	Peas.....	150	.86	.083	.....
Egg.....	60.5	1.25	.143	.....	Hominy.....	100	.38	.011	.....
Butter.....	30	.03	.007	.....	Sweet potato.....	100	.25	.039	.....
Cream.....	130	.48	.098	.....	Water ice.....	200	.02	.011	.....
Bread.....	180	2.88	.164	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (crab apple)..	100	.01	.006	.....	Total.....	2,220	12.83	.927	.....
Beef.....	160	5.82	.327	.....	<i>Mar. 23, 1911.</i>				
Peas.....	150	.77	.080	.....	Cream of wheat....	15	.30	.017	.....
Boiled potato.....	100	.32	.059	.....	Egg.....	55	1.13	.130	.....
Rice, steamed.....	100	.27	.032	.....	Butter.....	30	.03	.007	.....
Pears.....	200	.12	.025	.....	Cream.....	130	.47	.092	.....
Water (c. c.).....	1,000	.....	.....	.....	Bread.....	180	2.93	.167	.....
Total.....	2,230	12.25	.958	.....	Jelly (currant and raspberry).....	100	.04	.007	.....
<i>Mar. 19, 1911.</i>					Veal.....	160	6.32	.367	.....
Cream of wheat....	15	.20	.017	.....	Peas.....	150	.74	.075	.....
Egg.....	59.5	1.23	.141	.....	String beans.....	100	.26	.026	.....
Butter.....	30	.03	.007	.....	Boiled potato.....	100	.40	.072	.....
Cream.....	130	.49	.098	.....	Peaches.....	200	.22	.035	.....
Bread.....	180	2.99	.162	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (currant and raspberry).....	100	.04	.007	.....	Total.....	2,220	12.84	.995	.....
Fowl.....	160	6.03	.325	.....				

¹ Sick.

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 24, 1911.</i>					<i>Mar. 28, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	15	0.38	0.070	.....	Peas (green).....	150	1.11	0.127	0.0173
Egg.....	54	1.11	.128	.....	Lima beans.....	100	1.29	.093	.....
Butter.....	30	.03	.007	.....	Boiled potato.....	100	.30	.063	.....
Cream.....	130	.51	.097	.....	Strawberries.....	200	.28	.058	.....
Bread.....	180	2.86	.163	.....	Grape juice (c. c.)..	300	.12	.020	.....
Jelly (currant and raspberry).....	100	.04	.007	.....	Water (c. c.).....	800	.....	.....	.....
Lamb.....	160	6.14	.339	.....	Total.....	2,350	14.36	1.127	.0173
Peas.....	150	.80	.076	.....				
Corn.....	100	.39	.069	.....	<i>Mar. 29, 1911.</i>				
Mashed potato.....	100	.36	.066	.....	Oatmeal.....	15	.38	.070	.....
Cherries.....	200	.26	.040	.....	Egg.....	53	1.09	.126	.....
Water (c. c.).....	1,000	.....	.....	.....	Butter.....	30	.03	.007	.....
Total.....	2,220	12.88	1.062	.....	Cream.....	130	.53	.100	.....
<i>Mar. 25, 1911.</i>					Bread.....	180	3.10	.167	.....
Cream of wheat....	15	.30	.017	.....	Jelly (guince).....	100	.01	.006	.....
Egg.....	52.5	1.08	.124	.....	Fowl.....	160	6.11	.343	.....
Butter.....	30	.03	.007	.....	Peas.....	150	1.14	.127	.0186
Cream.....	130	.51	.096	.....	Hominy.....	100	.39	.013	.....
Bread.....	180	2.83	.165	.....	Sweet potato.....	100	.22	.038	.....
Jelly (grape).....	100	.04	.015	.....	Water ice.....	200	.02	.011	.....
Beef.....	160	6.37	.339	.....	Grape juice (c. c.)..	500	.20	.034	.....
Peas.....	150	.80	.080	.....	Water (c. c.).....	700	.....	.....	.....
Boiled potatoes.....	100	.31	.054	.....	Total.....	2,420	13.22	1.042	.0186
Rice, steamed.....	100	.34	.034	.....				
Pears.....	200	.12	.025	.....	<i>Mar. 30, 1911.</i>				
Water (c. c.).....	1,000	.....	.....	.....	Cream of wheat....	15	.30	.017	.....
Total.....	2,220	12.73	.956	.....	Egg.....	50	1.03	.118	.....
<i>Mar. 26, 1911.</i>					Butter.....	30	.03	.007	.....
Cream of wheat....	15	.30	.017	.....	Cream.....	130	.48	.099	.....
Egg.....	52	1.07	.123	.....	Bread.....	180	2.88	.157	.....
Butter.....	30	.03	.007	.....	Jelly (grape).....	100	.04	.015	.....
Cream.....	130	.51	.097	.....	Veal.....	160	5.81	.387	.....
Bread.....	180	2.90	.171	.....	Peas.....	150	1.11	.125	.0156
Jelly (currant and raspberry).....	100	.04	.007	.....	String beans.....	100	.27	.027	.....
Fowl.....	160	5.82	.331	.....	Boiled potato.....	100	.29	.069	.....
Peas.....	150	.77	.083	.....	Peaches.....	200	.22	.035	.....
Celery.....	100	.21	.046	.....	Grape juice (c. c.)..	700	.28	.048	.....
Boiled potato.....	100	.41	.051	.....	Water (c. c.).....	600	.....	.....	.....
Ice cream.....	200	.95	.140	.....	Total.....	2,520	12.74	1.104	.0156
Water (c. c.).....	1,000	.....	.....	.....		
Total.....	2,220	13.01	1.073	.....	<i>Mar. 31, 1911.</i>				
<i>Mar. 27, 1911.</i>					Oatmeal.....	15	.38	.070	.....
Oatmeal.....	15	.38	.070	.....	Egg.....	49	1.01	.116	.....
Egg.....	54	1.11	.128	.....	Butter.....	30	.03	.007	.....
Butter.....	30	.03	.007	.....	Cream.....	130	.47	.101	.....
Cream.....	130	.51	.099	.....	Bread.....	180	2.81	.168	.....
Bread.....	180	2.93	.167	.....	Jelly (grape).....	100	.04	.015	.....
Jelly (currant and raspberry).....	100	.04	.007	.....	Lamb.....	160	5.78	.336	.....
Lamb.....	160	6.05	.342	.....	Peas.....	150	1.14	.127	.0176
Peas.....	150	.84	.083	.....	Corn.....	100	.36	.066	.....
Beets.....	100	.36	.054	.....	Mashed potato.....	100	.28	.060	.....
Mashed potato.....	100	.42	.066	.....	Cherries.....	202	.26	.040	.....
Rice pudding.....	200	1.26	.208	.....	Grape juice (c. c.)..	650	.26	.044	.....
Grape juice (c. c.)..	100	.04	.007	.....	Water (c. c.).....	700	.....	.....	.....
Water (c. c.).....	1,000	.....	.....	.....	Total.....	2,570	12.82	1.150	.0176
Total.....	2,300	13.97	1.238	.....				
<i>Mar. 28, 1911.</i>					<i>Apr. 1, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	53.5	1.08	.127	.....	Egg.....	51.5	1.06	.122	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Cream.....	130	.49	.098	.....	Cream.....	130	.49	.096	.....
Bread.....	180	3.02	.171	.....	Bread.....	180	2.66	.152	.....
Jelly (currant and raspberry).....	100	.04	.007	.....	Jelly (guince).....	100	.01	.006	.....
Beef.....	160	6.30	.339	.....	Beef.....	160	6.32	.343	.....
					Peas.....	150	1.11	.123	.0180
					Boiled potato.....	100	.35	.045	.....
					Rice, steamed.....	100	.28	.020	.....
					Pears.....	200	.12	.025	.....
					Grape juice (c. c.)..	600	.24	.041	.....
					Water (c. c.).....	600	.....	.....	.....
					Total.....	2,420	12.97	.997	.0180

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 2, 1911.</i>					<i>Apr. 6, 1911—Con.</i>				
Cream of wheat....	Grams. 15	Grams. 0.30	Grams. 0.017	Gram.	String beans.....	Grams. 100	Grams. 0.27	Grams. 0.025	Gram.
Egg.....	50.5	1.04	.120	.....	Boiled potato.....	100	.37	.042	.....
Butter.....	30	.03	.007	.....	Peaches.....	200	.22	.035	.....
Cream.....	130	.49	.099	.....	Grape juice (c. c.)..	500	.20	.034	.....
Bread.....	180	2.81	.162	.....	Water (c. c.).....	600	.....	.....	.....
Jelly (crab apple)..	100	.01	.006	.....	Total.....	2,320	12.76	1.049	0.0182
Fowl.....	160	6.02	.322	.....	<i>Apr. 7, 1911.</i>				
Peas.....	150	1.08	.123	0.0167	Oatmeal.....	15	.38	.070	.....
Celery.....	100	.17	.031	.....	Egg.....	49.5	1.02	.117	.....
Boiled potato.....	100	.32	.067	.....	Butter.....	30	.03	.007	.....
Ice cream.....	200	.72	.143	.....	Cream.....	130	.46	.099	.....
Grape juice (c. c.)..	600	.24	.041	.....	Bread.....	180	3.11	.170	.....
Water (c. c.).....	400	.....	.....	.....	Jelly (apple).....	100	.01	.006	.....
Total.....	2,220	13.23	1.138	.0167	Lamb.....	160	5.76	.339	.....
<i>Apr. 3, 1911.</i>					Peas.....	150	1.11	.130	.0170
Oatmeal.....	15	.38	.070	.....	Corn.....	100	.35	.070	.....
Egg.....	56	1.15	.133	.....	Mashed potato.....	100	.30	.064	.....
Butter.....	30	.03	.007	.....	Cherries.....	204	.26	.041	.....
Cream.....	130	.51	.097	.....	Grape juice (c. c.)..	500	.20	.034	.....
Bread.....	180	2.86	.164	.....	Water (c. c.).....	600	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Total.....	2,320	12.99	1.147	.0170
Lamb.....	160	6.46	.370	.....	<i>Apr. 8, 1911.</i>				
Peas.....	150	1.18	.127	.0147	Cream of wheat....	15	.30	.017	.....
Beets.....	100	.23	.043	.....	Egg.....	57.5	1.18	.136	.....
Mashed potato.....	100	.29	.059	.....	Butter.....	30	.03	.007	.....
Rice pudding.....	200	1.30	.217	.....	Cream.....	130	.49	.097	.....
Grape juice (c. c.)..	700	.28	.048	.....	Bread.....	180	2.84	.160	.....
Water (c. c.).....	500	.....	.....	.....	Jelly (apple).....	100	.01	.006	.....
Total.....	2,420	14.71	1.350	.0147	Beef.....	160	6.24	.343	.....
<i>Apr. 4, 1911.</i>					Peas.....	150	1.11	.125	.0158
Cream of wheat....	15	.30	.017	.....	Boiled potato.....	100	.33	.071	.....
Egg.....	57	1.17	.135	.....	Rice, steamed.....	100	.41	.032	.....
Butter.....	30	.03	.007	.....	Peas.....	200	.12	.025	.....
Cream.....	130	.51	.098	.....	Grape juice (c. c.)..	500	.20	.034	.....
Bread.....	180	2.95	.167	.....	Water (c. c.).....	500	.....	.....	.....
Jelly (quince).....	100	.01	.006	.....	Total.....	2,220	13.26	1.053	.0158
Beef.....	160	6.51	.343	.....	<i>Apr. 9, 1911.</i>				
Peas.....	150	1.04	.125	.0146	Cream of wheat....	15	.30	.017	.....
Lima beans.....	100	1.37	.110	.....	Egg.....	56.5	1.16	.134	.....
Boiled potato.....	100	.28	.060	.....	Butter.....	30	.03	.007	.....
Strawberries.....	200	.32	.058	.....	Cream.....	130	.52	.099	.....
Grape juice (c. c.)..	700	.28	.048	.....	Bread.....	180	2.95	.163	.....
Water (c. c.).....	500	.....	.....	.....	Jelly (currant and raspberry).....	100	.04	.007	.....
Total.....	2,420	14.77	1.174	.0146	Fowl.....	160	5.68	.333	.....
<i>Apr. 5, 1911.</i>					Peas.....	150	1.11	.120	.0177
Oatmeal.....	15	.38	.070	.....	Celery.....	100	.12	.036	.....
Egg.....	49.5	1.02	.117	.....	Boiled potato.....	100	.24	.064	.....
Butter.....	30	.03	.007	.....	Ice cream.....	200	.74	.145	.....
Cream.....	130	.46	.098	.....	Grape juice (c. c.)..	600	.24	.041	.....
Bread.....	180	2.97	.160	.....	Water (c. c.).....	500	.....	.....	.....
Jelly (currant and raspberry).....	100	.04	.007	.....	Total.....	2,320	13.13	1.166	.0177
Fowl.....	160	6.06	.346	.....	<i>Apr. 10, 1911.</i>				
Peas.....	150	1.16	.126	.0164	Oatmeal.....	15	.38	.070	.....
Hominy.....	100	.37	.011	.....	Egg.....	52.5	1.08	.124	.....
Sweet potato.....	100	.17	.043	.....	Butter.....	30	.03	.007	.....
Water ice.....	200	.02	.011	.....	Cream.....	130	.48	.093	.....
Grape juice (c. c.)..	500	.20	.034	.....	Bread.....	180	2.66	.157	.....
Water (c. c.).....	500	.....	.....	.....	Jelly (apple).....	100	.01	.006	.....
Total.....	2,220	12.88	1.030	.0164	Lamb.....	160	5.97	.343	.....
<i>Apr. 6, 1911.</i>					Peas.....	150	1.13	.118	.0156
Cream of wheat....	15	.30	.017	.....	Beets.....	100	.33	.045	.....
Egg.....	55.5	1.14	.132	.....	Mashed potato.....	100	.33	.060	.....
Butter.....	30	.03	.007	.....	Rice pudding.....	200	1.20	.213	.....
Cream.....	130	.49	.098	.....	Grape juice (c. c.)..	600	.24	.041	.....
Bread.....	180	2.70	.163	.....	Water (c. c.).....	600	.....	.....	.....
Jelly (quince).....	100	.01	.006	.....	Total.....	2,420	13.84	1.277	.0156
Veal.....	160	5.87	.367	.....				
Peas.....	180	1.16	.123	.0128					

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 11, 1911.</i>					<i>Apr. 15, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Boiled potato.....	100	0.29	0.059	.....
Egg.....	51.1	1.05	.121	.....	Rice, steamed.....	100	.36	.027	.....
Butter.....	30	.03	.007	.....	Pears.....	200	.12	.025	.....
Cream.....	130	.49	.096	.....	Grape juice (c. c.)..	650	.26	.044	.....
Bread.....	180	2.95	.171	.....	Water (c. c.).....	500	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Total.....	2,380	13.60	1.089	0.0140
Beef.....	160	5.92	.336	.....	<i>Apr. 16, 1911.</i>				
Peas.....	150	1.08	.119	0.0174	Cream of wheat....	15	.30	.017	.....
Lima beans.....	100	1.27	.102	.....	Egg.....	59.3	1.22	.141	.....
Boiled potato.....	100	.38	.059	.....	Butter.....	30	.03	.007	.....
Strawberries.....	200	.34	.058	.....	Cream.....	130	.46	.099	.....
Grape juice (c. c.)..	600	.24	.041	.....	Bread.....	180	2.90	.176	.....
Water (c. c.).....	500	.....	.....	.....	Jelly (apple).....	100	.01	.006	.....
Total.....	2,320	14.09	1.142	.0174	Fowl.....	160	5.92	.339	.....
<i>Apr. 12, 1911.</i>					Peas.....	150	1.10	.130	.0152
Oatmeal.....	15	.38	.070	.....	Celery.....	100	.15	.031	.....
Egg.....	53	1.09	.126	.....	Boiled potato.....	100	.24	.051	.....
Butter.....	30	.03	.007	.....	Ice cream.....	200	.72	.148	.....
Cream.....	130	.49	.100	.....	Grape juice (c. c.)..	700	.28	.048	.....
Bread.....	180	2.81	.171	.....	Water (c. c.).....	500	.....	.....	.....
Jelly (crab apple)...	100	.01	.006	.....	Total.....	2,420	13.33	1.193	.0152
Fowl.....	160	5.87	.331	.....	<i>Apr. 17, 1911.</i>				
Peas.....	150	1.11	.130	.0176	Oatmeal.....	15	.38	.070	.....
Hominy.....	100	.41	.014	.....	Egg.....	54.8	1.13	.130	.....
Sweet potato.....	100	.16	.052	.....	Butter.....	30	.03	.007	.....
Water ice.....	200	.02	.011	.....	Cream.....	130	.49	.098	.....
Grape juice (c. c.)..	600	.24	.041	.....	Bread.....	180	2.79	.165	.....
Water (c. c.).....	500	.....	.....	.....	Jelly (quince).....	100	.01	.006	.....
Total.....	2,320	12.62	1.059	.0176	Lamb.....	160	6.51	.378	.....
<i>Apr. 13, 1911.</i>					Peas.....	150	1.11	.123	.0143
Cream of wheat....	15	.30	.017	.....	Beets.....	100	.30	.067	.....
Egg.....	56	1.15	.133	.....	Mashed potato.....	100	.37	.073	.....
Butter.....	30	.07	.007	.....	Rice pudding.....	200	1.10	.220	.....
Cream.....	130	.48	.099	.....	Grape juice (c. c.)..	700	.28	.048	.....
Bread.....	180	3.02	.165	.....	Water (c. c.).....	600	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Total.....	2,520	14.50	1.385	.0143
Veal.....	160	6.10	.363	.....	<i>Apr. 18, 1911.</i>				
Peas.....	150	1.13	.120	.0173	Cream of wheat....	15	.30	.017	.....
String beans.....	100	.27	.026	.....	Egg.....	59.1	1.22	.140	.....
Boiled potato.....	100	.23	.050	.....	Butter.....	30	.03	.007	.....
Peaches.....	200	.22	.035	.....	Cream.....	130	.48	.099	.....
Grape juice (c. c.)..	650	.26	.044	.....	Bread.....	180	2.92	.173	.....
Water (c. c.).....	650	.....	.....	.....	Jelly (currant).....	100	.04	.007	.....
Total.....	2,520	13.23	1.074	.0173	Beef.....	160	5.84	.343	.....
<i>Apr. 14, 1911.</i>					Peas.....	150	.98	.125	.0164
Oatmeal.....	15	.38	.070	.....	Lima beans.....	100	1.32	.113	.....
Egg.....	51.5	1.08	.122	.....	Boiled potato.....	100	.39	.047	.....
Butter.....	30	.03	.007	.....	Strawberries.....	200	.42	.058	.....
Cream.....	130	.56	.103	.....	Grape juice (c. c.)..	800	.32	.054	.....
Bread.....	180	2.93	.168	.....	Water (c. c.).....	400	.....	.....	.....
Jelly (quince).....	100	.01	.006	.....	Total.....	2,420	14.26	1.183	.0164
Lamb.....	160	5.33	.331	.....	<i>Apr. 19, 1911.</i>				
Peas.....	150	1.13	.125	.0164	Oatmeal.....	15	.38	.070	.....
Corn.....	100	.40	.065	.....	Egg.....	51	1.05	.121	.....
Mashed potato.....	100	.31	.059	.....	Butter.....	30	.03	.007	.....
Cherries.....	202	.26	.040	.....	Cream.....	130	.51	.101	.....
Grape juice (c. c.)..	650	.26	.044	.....	Bread.....	180	2.83	.160	.....
Water (c. c.).....	500	.....	.....	.....	Jelly (apple).....	100	.01	.006	.....
Total.....	2,370	12.68	1.140	.0164	Fowl.....	160	5.73	.343	.....
<i>Apr. 15, 1911.</i>					Peas.....	150	.83	.128	.0159
Cream of wheat....	15	.30	.017	.....	Hominy.....	100	.43	.013	.....
Egg.....	59.5	1.23	.141	.....	Sweet potato.....	100	.22	.060	.....
Butter.....	30	.03	.007	.....	Water ice.....	200	.02	.011	.....
Cream.....	130	.51	.099	.....	Grape juice (c. c.)..	700	.28	.048	.....
Bread.....	180	2.95	.171	.....	Water (c. c.).....	500	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Total.....	2,420	12.32	1.068	.0159
Beef.....	160	6.40	.357	.....				
Peas.....	150	1.11	.127	.0140					

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 20, 1911.</i>					<i>Apr. 24, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Jelly (currant)....	100	0.04	0.007	.....
Egg.....	54.5	1.12	.129	.....	Lamb.....	160	5.62	.346	.....
Butter.....	30	.03	.007	.....	Peas.....	150	1.18	.125	0.0125
Cream.....	130	.47	.094	.....	Beets.....	100	.19	.061	.....
Bread.....	180	2.77	.168	.....	Mashed potato....	100	.30	.058	.....
Jelly (grape)....	100	.04	.015	.....	Rice pudding.....	200	1.24	.210	.....
Veal.....	160	5.66	.384	.....	Grape juice (c. c.)..	800	.32	.054	.....
Peas.....	150	.86	.125	0.0119	Water (c. c.).....	700	.....	.....	.....
String beans.....	100	.30	.034	.....				
Boiled potato....	100	.24	.061	.....	Total.....	2,720	13.59	1.348	.0125
Peaches.....	200	.22	.035	.....				
Grape juice (c. c.)..	700	.28	.048	.....	<i>Apr. 25, 1911.</i>				
Water (c. c.).....	500	.....	.....	.....		
Total.....	2,420	12.29	1.117	.0119	Cream of wheat....	15	.30	.017	.....
					Egg.....	55.1	1.13	.131	.....
<i>Apr. 21, 1911.</i>					Butter.....	30	.03	.007	.....
					Cream.....	130	.48	.097	.....
Oatmeal.....	15	.38	.070	.....	Bread.....	180	2.95	.174	.....
Egg.....	54.9	1.13	.130	.....	Jelly (apple)....	100	.01	.006	.....
Butter.....	30	.03	.007	.....	Beef.....	160	5.68	.351	.....
Cream.....	130	.44	.096	.....	Peas.....	150	1.13	.123	.0129
Bread.....	180	2.84	.173	.....	Lima beans.....	100	1.28	.112	.....
Jelly (quince)....	100	.01	.006	.....	Boiled potato....	100	.29	.063	.....
Lamb.....	160	5.63	.357	.....	Strawberries.....	200	.42	.058	.....
Peas.....	150	1.11	.126	.0117	Grape juice (c. c.)..	700	.28	.048	.....
Corn.....	100	.40	.071	.....	Water (c. c.).....	700	.....	.....	.....
Mashed potato....	100	.26	.056	.....				
Cherries.....	200	.26	.040	.....	Total.....	2,620	13.98	1.187	.0129
Grape juice (c. c.)..	650	.26	.044	.....				
Water (c. c.).....	450	.....	.....	.....	<i>Apr. 26, 1911.</i>				
Total.....	2,320	12.75	1.176	.0117					
					Oatmeal.....	15	.38	.070	.....
<i>Apr. 22, 1911.</i>					Egg.....	57	1.17	.135	.....
					Butter.....	30	.03	.007	.....
Cream of wheat....	15	.30	.017	.....	Cream.....	130	.51	.100	.....
Egg.....	49.8	1.03	.118	.....	Bread.....	180	2.72	.168	.....
Butter.....	30	.03	.007	.....	Jelly (grape)....	100	.04	.015	.....
Cream.....	130	.43	.096	.....	Fowl.....	160	5.84	.346	.....
Bread.....	180	2.88	.171	.....	Peas.....	150	1.14	.127	.0128
Jelly (currant)....	100	.04	.007	.....	Hominy.....	100	.38	.014	.....
Beef.....	160	6.22	.336	.....	Sweet potato....	100	.30	.057	.....
Peas.....	150	1.11	.119	.0122	Water ice.....	200	.02	.011	.....
Boiled potato....	100	.25	.060	.....	Grape juice (c. c.)..	800	.32	.054	.....
Rice, steamed.....	100	.34	.030	.....	Water (c. c.).....	900	.....	.....	.....
Pears.....	200	.12	.025	.....				
Grape juice (c. c.)..	700	.28	.048	.....	Total.....	2,920	12.85	1.104	.0128
Water (c. c.).....	500	.....	.....	.....		
Total.....	2,420	13.03	1.034	.0122	<i>Apr. 27, 1911.</i>				
<i>Apr. 23, 1911.</i>					Cream of wheat....	15	.30	.017	.....
					Egg.....	52.6	1.08	.125	.....
Cream of wheat....	15	.30	.017	.....	Butter.....	30	.03	.007	.....
Egg.....	49.8	1.03	.118	.....	Cream.....	130	.48	.099	.....
Butter.....	30	.03	.007	.....	Bread.....	180	2.79	.178	.....
Cream.....	130	.47	.096	.....	Jelly (quince)....	100	.01	.006	.....
Bread.....	180	2.84	.165	.....	Veal.....	160	5.94	.378	.....
Jelly (quince)....	100	.01	.006	.....	Peas.....	150	1.11	.123	.0144
Fowl.....	160	5.74	.331	.....	String beans.....	100	.30	.031	.....
Peas.....	150	1.07	.119	.0102	Boiled potato....	100	.26	.054	.....
Celery.....	100	.15	.028	.....	Peaches.....	200	.22	.035	.....
Boiled potato....	100	.28	.050	.....	Grape juice (c. c.)..	800	.32	.054	.....
Ice cream.....	200	.72	.140	.....	Water (c. c.).....	900	.....	.....	.....
Grape juice (c. c.)..	750	.30	.051	.....				
Water (c. c.).....	500	.....	.....	.....	Total.....	2,920	12.84	1.107	.0144
Total.....	2,470	12.94	1.128	.0102					
					<i>Apr. 28, 1911.</i>				
<i>Apr. 24, 1911.</i>									
Oatmeal.....	15	.38	.070	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	58.9	1.21	.140	.....	Egg.....	56	1.15	.133	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Cream.....	130	.49	.100	.....	Cream.....	130	.51	.103	.....
Bread.....	180	2.59	.170	.....	Bread.....	180	2.88	.174	.....
					Jelly (apple)....	100	.01	.006	.....
					Lamb.....	160	5.98	.346	.....
					Peas.....	150	1.19	.131	.0089
					Corn.....	100	.43	.070	.....
					Mashed potato....	100	.33	.060	.....

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 28, 1911—Con.</i>					<i>May 3, 1911.</i>				
Cherries.....	193	0.25	0.038	.....	Oatmeal.....	15	0.38	0.070	.....
Grape juice (c. c.)..	800	.32	.054	.....	Egg.....	55.5	1.14	.132	.....
Water (c. c.).....	800	.....	.....	.....	Butter.....	30	.03	.007	.....
Total.....	2,810	13.46	1.192	0.0089	Cream.....	130	.49	.099	.....
<i>Apr. 29, 1911.</i>					Bread.....	180	3.06	.168	.....
Cream of wheat....	15	.30	.017	.....	Jelly (apple).....	100	.01	.006	.....
Egg.....	53	1.09	.126	.....	Fowl.....	160	5.79	.346	.....
Butter.....	30	.03	.007	.....	Peas.....	150	1.07	.093	0.0119
Cream.....	130	.48	.097	.....	String beans.....	150	.44	.055	.0074
Bread.....	180	2.93	.173	.....	Sweet potato.....	100	.18	.042	.....
Jelly (currant).....	100	.04	.007	.....	Water ice.....	200	.02	.011	.....
Beef.....	160	6.16	.331	.....	Grape juice (c. c.)..	750	.30	.051	.....
Peas.....	150	1.23	.132	.0138	Water (c. c.).....	800	.....	.....	.....
Boiled potato.....	100	.26	.057	.....	Total.....	2,820	12.91	1.080	.0193
Rice, steamed.....	100	.32	.025	.....	<i>May 4, 1911.</i>				
Pears.....	200	.12	.025	.....	Cream of wheat....	15	.30	.017	.....
Grape juice (c. c.)..	700	.28	.048	.....	Egg.....	56.1	1.16	.133	.....
Water (c. c.).....	800	.....	.....	.....	Butter.....	30	.03	.007	.....
Total.....	2,720	13.24	1.045	.0138	Cream.....	130	.49	.094	.....
<i>Apr. 30, 1911.</i>					Bread.....	180	2.66	.163	.....
Cream of wheat....	15	.30	.017	.....	Jelly (currant).....	100	.04	.007	.....
Egg.....	54.2	1.12	.128	.....	Veal.....	160	5.95	.387	.....
Butter.....	30	.03	.007	.....	Peas.....	150	1.07	.090	.0123
Cream.....	130	.49	.100	.....	String beans.....	150	.42	.060	.0059
Bread.....	180	2.92	.171	.....	Boiled potato.....	100	.27	.055	.....
Jelly (apple).....	100	.01	.006	.....	Peaches.....	200	.22	.035	.....
Fowl.....	160	5.95	.339	.....	Grape juice (c. c.)..	700	.28	.048	.....
Peas.....	150	1.10	.123	.0132	Water (c. c.).....	800	.....	.....	.....
Celery.....	100	.12	.027	.....	Total.....	2,770	12.89	1.096	.0182
Boiled potato.....	100	.33	.058	.....	<i>May 5, 1911.</i>				
Ice cream.....	200	.74	.140	.....	Oatmeal.....	15	.38	.070	.....
Grape juice (c. c.)..	800	.32	.054	.....	Egg.....	53	1.09	.126	.....
Water (c. c.).....	700	.....	.....	.....	Butter.....	30	.03	.007	.....
Total.....	2,720	13.43	1.170	.0132	Cream.....	130	.52	.099	.....
<i>May 1, 1911.</i>					Bread.....	180	3.17	.170	.....
Oatmeal.....	15	.38	.070	.....	Jelly (apple).....	100	.01	.006	.....
Egg.....	55.5	1.14	.132	.....	Lamb.....	160	5.79	.360	.....
Butter.....	30	.03	.007	.....	Peas.....	150	1.10	.093	.0135
Cream.....	130	.48	.101	.....	String beans.....	150	.44	.059	.0071
Bread.....	180	2.75	.178	.....	Mashed potato.....	100	.33	.058	.....
Jelly (currant).....	100	.04	.007	.....	Peaches.....	200	.22	.035	.....
Lamb.....	160	5.76	.357	.....	Grape juice (c. c.)..	700	.28	.048	.....
Peas.....	150	1.10	.126	.0111	Water (c. c.).....	800	.....	.....	.....
Beets.....	100	.28	.052	.....	Total.....	2,770	13.36	1.131	.0206
Mashed potato.....	100	.31	.056	.....	<i>May 6, 1911.</i>				
Rice pudding.....	200	1.54	.220	.....	Cream of wheat....	15	.30	.017	.....
Grape juice (c. c.)..	800	.32	.054	.....	Egg.....	56.3	1.16	.133	.....
Water (c. c.).....	700	.....	.....	.....	Butter.....	30	.03	.007	.....
Total.....	2,720	14.13	1.360	.0111	Cream.....	130	.55	.104	.....
<i>May 2, 1911.</i>					Bread.....	180	2.99	.162	.....
Cream of wheat....	15	.30	.017	.....	Jelly (grape).....	100	.04	.015	.....
Egg.....	56.4	1.16	.134	.....	Beef.....	160	6.11	.346	.....
Butter.....	30	.03	.007	.....	Peas.....	150	.95	.094	.0125
Cream.....	130	.56	.104	.....	String beans.....	150	.48	.063	.0074
Bread.....	180	2.92	.174	.....	Boiled potato.....	100	.39	.067	.....
Jelly (grape).....	100	.04	.015	.....	Pears.....	200	.12	.025	.....
Beef.....	160	5.89	.336	.....	Grape juice (c. c.)..	450	.22	.030	.....
Peas.....	150	1.13	.126	.0138	Water (c. c.).....	400	.....	.....	.....
Lima beans.....	100	.99	.088	.....	Total.....	2,120	13.30	1.063	.0199
Boiled potato.....	100	.26	.056	.....	<i>May 7, 1911.</i>				
Strawberries.....	200	.30	.058	.....	Cream of wheat....	15	.30	.017	.....
Grape juice (c. c.)..	750	.30	.051	.....	Egg.....	55.2	1.14	.131	.....
Water (c. c.).....	700	.....	.....	.....	Butter.....	30	.03	.007	.....
Total.....	2,670	13.88	1.166	.0138	Cream.....	130	.52	.103	.....
					Bread.....	180	3.01	.159	.....
					Jelly (grape).....	100	.04	.015	.....

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 7, 1911—Con.</i>					<i>May 11, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Fowl.....	160	6.45	0.343		Grape juice (c. c.)..	1,000	0.40	0.068	
Peas.....	150	1.05	.093	0.0116	Water (c. c.).....	900			
String beans.....	150	.47	.059	.0063	Total.....	3,170	13.53	1.125	0.0189
Boiled potato.....	100	.30	.064		<i>May 12, 1911.</i>				
Ice cream.....	200	.68	.134		Oatmeal.....	15	.38	.070	
Grape juice (c. c.)..	600	.24	.041		Egg.....	55	1.13	.130	
Water (c. c.).....	800				Butter.....	30	.03	.007	
Total.....	2,670	14.23	1.166	.0179	Cream.....	130	.47	.098	
<i>May 8, 1911.</i>					Bread.....	180	2.90	.181	
Oatmeal.....	15	.38	.070		Jelly (quince).....	100	.01	.006	
Egg.....	54.5	1.12	.129		Lamb.....	160	6.19	.354	
Butter.....	30	.03	.007		Peas.....	150	1.11	.092	.0146
Cream.....	130	.48	.096		String beans.....	150	.45	.059	.0068
Bread.....	180	2.95	.181		Mashed potato.....	100	.32	.071	
Jelly (grape).....	100	.04	.015		Peaches.....	200	.22	.035	
Lamb.....	160	5.94	.339		Grape juice (c. c.)..	1,000	.40	.068	
Peas.....	150	.96	.090	.0110	Water (c. c.).....	1,000			
String beans.....	150	.48	.077	.0072	Total.....	3,270	13.61	1.171	.0214
Mashed potato.....	100	.30	.065		<i>May 13, 1911.</i>				
Rice pudding.....	200	1.30	.215		Cream of wheat.....	15	.30	.017	
Grape juice (c. c.)..	600	.24	.041		Egg.....	55.4	1.14	.131	
Water (c. c.).....	600				Butter.....	30	.03	.007	
Total.....	2,470	14.22	1.325	.0182	Cream.....	130	.43	.090	
<i>May 9, 1911.</i>					Bread.....	180	2.88	.174	
Cream of wheat.....	15	.30	.017		Jelly (grape).....	100	.04	.015	
Egg.....	57.5	1.18	.136		Beef.....	160	6.26	.331	
Butter.....	30	.03	.007		Peas.....	150	1.08	.098	.0123
Cream.....	130	.48	.098		String beans.....	150	.44	.058	.0078
Bread.....	180	2.92	.181		Boiled potato.....	100	.30	.065	
Jelly (currant).....	100	.04	.007		Pears.....	200	.12	.025	
Beef.....	160	6.32	.336		Grape juice (c. c.)..	1,000	.40	.068	
Peas.....	150	1.08	.102	.0138	Water (c. c.).....	1,100			
String beans.....	150	.42	.056	.0060	Total.....	3,370	13.42	1.079	.0201
Boiled potato.....	100	.31	.071		<i>May 14, 1911.</i>				
Strawberries.....	200	.36	.058		Cream of wheat.....	15	.30	.017	
Grape juice (c. c.)..	700	.28	.048		Egg.....	59.1	1.22	.140	
Water (c. c.).....	800				Butter.....	30	.03	.007	
Total.....	2,770	13.72	1.117	.0198	Cream.....	130	.49	.098	
<i>May 10, 1911.</i>					Bread.....	180	2.93	.179	
Oatmeal.....	15	.38	.070		Jelly (grape).....	100	.04	.015	
Egg.....	54	1.11	.128		Fowl.....	160	6.03	.331	
Butter.....	30	.03	.007		Peas.....	150	1.16	.092	.0135
Cream.....	130	.51	.101		String beans.....	150	.47	.063	.0072
Bread.....	180	2.88	.176		Boiled potato.....	100	.32	.066	
Jelly (currant).....	100	.04	.007		Ice cream.....	200	.74	.150	
Fowl.....	160	5.89	.331		Grape juice (c. c.)..	800	.32	.054	
Peas.....	150	1.05	.088	.0101	Water (c. c.).....	700			
String beans.....	150	.45	.059	.0074	Total.....	2,740	14.05	1.212	.0207
Sweet potato.....	100	.33	.055		<i>May 15, 1911.</i>				
Water ice.....	200	.02	.011		Oatmeal.....	15	.38	.070	
Grape juice (c. c.)..	900	.36	.061		Egg.....	57.4	1.18	.136	
Water (c. c.).....	800				Butter.....	30	.03	.007	
Total.....	2,970	13.05	1.094	.0175	Cream.....	130	.55	.101	
<i>May 11, 1911.</i>					Bread.....	180	2.81	.173	
Cream of wheat.....	15	.30	.017		Jelly (currant).....	100	.04	.007	
Egg.....	55.1	1.13	.131		Lamb.....	160	6.14	.343	
Butter.....	30	.03	.007		Peas.....	150	1.14	.090	.0134
Cream.....	130	.48	.099		String beans.....	150	.48	.067	.0068
Bread.....	180	2.86	.173		Mashed potato.....	100	.31	.059	
Jelly (quince).....	100	.01	.006		Rice pudding.....	200	1.12	.206	
Veal.....	160	6.32	.378		Grape juice (c. c.)..	800	.32	.054	
Peas.....	150	1.05	.094	.0117	Water (c. c.).....	600			
String beans.....	150	.42	.060	.0072	Total.....	2,670	14.50	1.313	.0202
Boiled potato.....	100	.31	.057						
Peaches.....	200	.22	.035						

CHART I.—*Diet*—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 16, 1911.</i>					<i>May 20, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	15	0.30	0.017	.....	String beans.....	150	0.42	0.067	.....
Egg.....	54.6	1.12	.129	.....	Boiled potato.....	100	.30	.071	.....
Butter.....	30	.03	.007	.....	Pears.....	200	.12	.025	.....
Cream.....	130	.49	.100	.....	Grape juice (c. c.)..	750	.30	.051	.....
Bread.....	180	2.83	.176	.....	Water (c. c.).....	800	.....	.....	.....
Jelly (currant).....	100	.04	.007	.....	Total.....	2,820	12.68	1.114	.....
Beef.....	160	6.18	.336	.....	<i>May 21, 1911.</i>				
Peas.....	150	1.05	.096	0.0135	Cream of wheat.....	15	.30	.017	.....
String beans.....	150	.44	.060	.0075	Egg.....	51	1.05	.121	.....
Boiled potato.....	100	.24	.071	.....	Butter.....	30	.03	.007	.....
Strawberries.....	200	.44	.058	.....	Cream.....	130	.51	.099	.....
Water (c. c.).....	500	.....	.....	.....	Bread.....	180	3.04	.185	.....
Total.....	1,970	13.16	1.057	.0210	Jelly (quince).....	100	.01	.006	.....
<i>May 17, 1911.</i>					Fowl.....	160	6.18	.336	.....
Oatmeal.....	15	.38	.070	.....	Peas.....	150	.86	.098	.....
Egg.....	59.6	1.23	.141	.....	String beans.....	150	.44	.055	.....
Butter.....	30	.03	.007	.....	Boiled potato.....	100	.37	.064	.....
Cream.....	130	.49	.100	.....	Ice cream.....	200	.72	.145	.....
Bread.....	180	2.84	.174	.....	Grape juice (c. c.)..	800	.32	.054	.....
Jelly (apple).....	100	.01	.006	.....	Water (c. c.).....	900	.....	.....	.....
Fowl.....	160	5.65	.322	.....	Total.....	2,970	13.83	1.187	.....
Peas.....	150	.84	.094	.....	<i>May 22, 1911.</i>				
String beans.....	150	.45	.064	.....	Oatmeal.....	15	.38	.070	.....
Sweet potato.....	100	.25	.047	.....	Egg.....	52	1.07	.123	.....
Water ice.....	200	.02	.011	.....	Butter.....	30	.03	.007	.....
Grape juice (c. c.)..	800	.32	.054	.....	Cream.....	130	.49	.100	.....
Water (c. c.).....	700	.....	.....	.....	Bread.....	180	2.92	.181	.....
Total.....	2,780	12.51	1.090	.....	Jelly (quince).....	100	.01	.006	.....
<i>May 18, 1911.</i>					Lamb.....	160	5.22	.331	.....
Cream of wheat.....	15	.30	.017	.....	Peas.....	150	.90	.096	.....
Egg.....	53.4	1.10	.127	.....	String beans.....	150	.45	.063	.....
Butter.....	30	.03	.007	.....	Mashed potato.....	100	.34	.056	.....
Cream.....	130	.49	.103	.....	Rice pudding.....	200	1.24	.201	.....
Bread.....	180	2.92	.181	.....	Grape juice (c. c.)..	800	.32	.054	.....
Jelly (apple).....	100	.01	.006	.....	Water (c. c.).....	1,000	.....	.....	.....
Veal.....	160	6.32	.375	.....	Total.....	3,070	13.37	1.288	.....
Peas.....	150	.83	.093	.....	<i>May 23, 1911.</i>				
String beans.....	150	.44	.052	.....	Cream of wheat.....	15	.30	.017	.....
Boiled potato.....	100	.22	.052	.....	Egg.....	56.1	1.16	.133	.....
Peaches.....	200	.22	.035	.....	Butter.....	30	.03	.007	.....
Grape juice (c. c.)..	900	.36	.061	.....	Cream.....	130	.48	.101	.....
Water (c. c.).....	700	.....	.....	.....	Bread.....	180	2.83	.167	.....
Total.....	2,870	13.24	1.109	.....	Jelly (grape).....	100	.04	.015	.....
<i>May 19, 1911.</i>					Beef.....	160	6.50	.339	.....
Oatmeal.....	15	.38	.070	.....	Peas.....	150	.92	.090	.....
Egg.....	60.2	1.24	.143	.....	String beans.....	150	.45	.052	.....
Butter.....	30	.03	.007	.....	Boiled potato.....	100	.29	.050	.....
Cream.....	130	.47	.103	.....	Strawberries.....	200	.36	.058	.....
Bread.....	180	2.93	.185	.....	Water (c. c.).....	800	.....	.....	.....
Jelly (currant).....	100	.04	.007	.....	Total.....	2,070	13.36	1.029	.....
Lamb.....	160	5.28	.327	.....	<i>May 24, 1911.</i>				
Peas.....	150	.83	.089	.....	Oatmeal.....	15	.38	.070	.....
String beans.....	150	.42	.062	.....	Egg.....	59.4	1.22	.141	.....
Mashed potato.....	100	.27	.055	.....	Butter.....	30	.03	.007	.....
Peaches.....	200	.22	.035	.....	Cream.....	130	.51	.101	.....
Grape juice (c. c.)..	900	.36	.061	.....	Bread.....	180	2.99	.173	.....
Water (c. c.).....	900	.....	.....	.....	Jelly (grape).....	100	.04	.015	.....
Total.....	3,080	12.47	1.144	.....	Fowl.....	160	5.89	.322	.....
<i>May 20, 1911.</i>					Peas.....	150	.83	.094	.....
Cream of wheat.....	15	.30	.017	.....	String beans.....	150	.45	.058	.....
Egg.....	53.4	1.10	.127	.....	Sweet potato.....	100	.24	.051	.....
Butter.....	30	.03	.007	.....	Water ice.....	200	.02	.011	.....
Cream.....	130	.53	.106	.....	Grape juice (c. c.)..	700	.28	.048	.....
Bread.....	180	2.79	.185	.....	Water (c. c.).....	800	.....	.....	.....
Jelly (currant).....	100	.04	.007	.....	Total.....	2,770	12.88	1.091	.....
Beef.....	160	5.89	.357	.....				
Peas.....	150	.86	.094	.....				

CHART I.—*Diet*—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 25, 1911.</i>					<i>May 28, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Cream of wheat....	15	0.30	0.017	.....
Egg.....	57.1	1.18	.135	.....	Egg.....	57	1.17	.135	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Cream.....	130	.51	.101	.....	Cream.....	130	.47	.102	.....
Bread.....	180	2.86	.171	.....	Bread.....	180	2.88	.187	.....
Jelly (grape).....	100	.04	.015	.....	Jelly (apple).....	100	.01	.006	.....
Veal.....	160	6.50	.374	.....	Fowl.....	160	5.94	.327	.....
Peas.....	150	.86	.101	.....	Peas.....	150	.81	.093	.....
String beans.....	150	.45	.054	.....	String beans.....	150	.45	.051	.....
Boiled potato.....	100	.38	.053	.....	Boiled potato.....	100	.40	.038	.....
Peaches.....	200	.22	.035	.....	Ice cream.....	200	.70	.133	.....
Grape juice (c. c.)..	800	.32	.054	.....	Grape juice (c. c.)..	700	.28	.048	.....
Water (c. c.).....	700	.....	.....	.....	Water (c. c.).....	800	.....	.....	.....
Total.....	2,770	13.65	1.117	.....	Total.....	2,770	13.44	1.144	.....
<i>May 26, 1911.</i>					<i>May 29, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Oatmeal.....	15	.38	.070	.....
Egg.....	62.4	1.29	.148	.....	Egg.....	54.5	1.12	.129	.....
Butter.....	30	.03	.007	.....	Butter.....	130	.03	.007	.....
Cream.....	130	.49	.099	.....	Cream.....	30	.49	.098	.....
Bread.....	180	2.92	.167	.....	Bread.....	180	2.81	.170	.....
Jelly (quince).....	100	.01	.006	.....	Jelly (grape).....	100	.04	.015	.....
Lamb.....	160	5.79	.346	.....	Lamb.....	160	6.05	.354	.....
Peas.....	150	.89	.097	.....	Peas.....	150	.81	.101	.....
String beans.....	150	.45	.052	.....	String beans.....	150	.50	.051	.....
Mashed potato.....	100	.31	.033	.....	Mashed potato.....	100	.31	.035	.....
Peaches.....	200	.22	.035	.....	Rice pudding.....	200	1.56	.210	.....
Grape juice (c. c.)..	900	.36	.061	.....	Grape juice (c. c.)..	800	.32	.054	.....
Water (c. c.).....	800	.....	.....	.....	Water (c. c.).....	800	.....	.....	.....
Total.....	2,980	13.06	1.068	.....	Total.....	2,870	14.42	1.294	.....
<i>May 27, 1911.</i>					<i>May 30, 1911.</i>				
Oatmeal.....	15	.38	.070	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	52.8	1.09	.125	.....	Egg.....	55.1	1.13	.131	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Cream.....	130	.48	.097	.....	Cream.....	130	.49	.099	.....
Bread.....	180	2.84	.178	.....	Bread.....	180	2.93	.174	.....
Jelly (quince).....	100	.01	.006	.....	Jelly (quince).....	100	.01	.006	.....
Beef.....	160	6.64	.339	.....	Beef.....	160	6.22	.339	.....
Peas.....	150	.90	.096	.....	Peas.....	150	.78	.097	.....
String beans.....	150	.41	.060	.....	String beans.....	150	.45	.048	.....
Boiled potato.....	100	.37	.033	.....	Boiled potato.....	100	.29	.037	.....
Pears.....	200	.12	.025	.....	Strawberries.....	200	.36	.058	.....
Grape juice (c. c.)..	800	.32	.054	.....	Water (c. c.).....	900	.....	.....	.....
Water (c. c.).....	800	.....	.....	.....		
Total.....	2,870	13.59	1.090	.....	Total.....	2,170	12.99	1.013	.....

CHART I.—Diet—Continued.

SUBJECT No. 4 (E. S. F.).

Food.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
	Grams.	Gram.	Grams.	Grams.	Grams.	Grams.	Grams.
Cream of wheat.....	15						
Oatmeal.....							
Egg.....							
Butter.....	50	50	50	50	50	50	50
Orange.....							
Sliced bananas.....				100		100	
Cream.....	150			150			
Bread.....	125	125	125	125	125	125	125
Jelly.....	100	100	100	100	100	100	100
Beef.....			150				150
Fowl.....	150			150			
Veal.....					150		
Lamb.....		150				150	
Peas.....	150	150	150	150	150	150	150
Beets.....		60					
Lima beans.....			100				
String beans.....					100		
Corn.....						100	
Celery.....	100						
Hominy.....				100			
Mashed or boiled potato.....	160 const.						
Sweet potato.....			160 const.				
Rice, steamed.....							100
Rice pudding.....		200					
Ice cream.....	200						
Water ice.....				200			
Peaches.....					250		
Peach juice.....							
Pears.....							250
Pear juice.....							
Cherries.....						250	
Cherry juice.....							
Strawberries.....			225				
Strawberry juice.....							
Grape juice (c. c.).....							
Carbonated water (c. c.).....							
Water (c. c.).....							
Sugar.....							

About 25 grams daily.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
	Grams.	Grams.	Grams.	Gram.		Grams.	Grams.	Grams.	Gram.
<i>Mar. 1, 1911.</i>					<i>May 2, 1911—Con.</i>				
Oatmeal.....	15	0.38	0.070		Potato.....	160	0.58	0.069	
Egg.....	97	2.00	.230		Peaches.....	250	.28	.044	
Butter.....	50	.06	.011		Grape juice (c. c.).....	75	.03	.007	
Sliced bananas.....	100	.19	.045		Water (c. c.).....	1,500			
Cream.....	200	.76	.155		Sugar.....	27.8			
Bread.....	125	2.00	.105		Total.....	3,150	12.92	1.182	
Jelly (quince).....	100	.01	.006						
Fowl.....	150	4.28	.341		<i>Mar. 3, 1911.</i>				
Peas.....	150	.84	.085		Oatmeal.....	15	.38	.070	
Hominy.....	100	.39	.013		Egg.....	107.2	2.21	.254	
Potato.....	160	.56	.101		Butter.....	50	.06	.011	
Water ice.....	200	.02	.011		Sliced bananas.....	100	.18	.026	
Grape juice (c. c.).....	400	.16	.027		Cream.....	200	.82	.072	
Carbonated water (c. c.).....	75				Bread.....	150	2.45	.147	
Water (c. c.).....	1,760				Jelly.....	100	.04	.006	
Sugar.....	22.5				Lamb.....	150	5.04	.354	
Total.....	3,710	11.65	1.200		Peas.....	150	.83	.098	
<i>Mar. 2, 1911.</i>					Corn.....	100	.37	.073	
Cream of wheat.....	15	.30	.017		Potato.....	160	.56	.109	
Egg.....	98.2	2.02	.233		Cherries.....	179	.24	.035	
Butter.....	50	.06	.011		Cherry juice.....	100	.07	.016	
Orange.....	147.8	.29	.040		Grape juice (c. c.).....	500	.20	.034	
Cream.....	200	.70	.161		Carbonated water (c. c.).....	100			
Bread.....	125	1.90	.112		Water (c. c.).....	1,500			
Jelly (quince).....	100	.01	.006		Sugar.....	23.1			
Veal.....	150	5.64	.360		Total.....	3,680	13.45	1.305	
Peas.....	150	.87	.092						
String beans.....	100	.24	.030						

CHART I.—*Diet*—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Mar. 4, 1911.</i>					<i>Mar. 7, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Carbonated water	50	.....	.....	.....
Egg.....	115.9	2.39	.275	.....	Water (c. c.).....	1,500	.....	.....	.....
Butter.....	50	.06	.011	.....	Sugar.....	27	.....	.....	.....
Orange.....	98	.19	.026	.....	Total.....	3,280	14.32	1,324	.....
Cream.....	200	.76	.154	.....	<i>Mar. 8, 1911.</i>				
Bread.....	150	2.36	.172	.....	Oatmeal.....	15	.38	.070	.....
Jelly.....	100	.04	.006	.....	Egg.....	101.5	2.09	.241	.....
Beef.....	150	5.52	.341	.....	Butter.....	50	.06	.011	.....
Peas.....	150	.89	.118	.....	Sliced bananas.....	100	.20	.028	.....
Boiled potato.....	160	.59	.130	.....	Cream.....	250	.95	.188	.....
Rice, steamed.....	100	.33	.027	.....	Bread.....	150	2.52	.155	.....
Pears.....	250	.15	.031	.....	Jelly (raspberry	.....	.....	.....	.....
Grape juice (c. c.).....	100	.04	.007	.....	and currant).....	100	.04	.007	.....
Water (c. c.).....	1,500	.....	.....	.....	Fowl.....	150	5.88	.335	.....
Sugar.....	22.3	.....	.....	.....	Peas.....	150	.87	.093	.....
Total.....	3,160	13.62	1.315	.....	Hominy.....	100	.37	.014	.....
<i>Mar. 5, 1911.</i>					Sweet potato.....	160	.35	.067	.....
Cream of wheat....	15	.30	.017	.....	Water ice.....	200	.02	.011	.....
Egg.....	97.2	1.96	.230	.....	Grape juice (c. c.).....	250	.10	.017	.....
Butter.....	50	.06	.011	.....	Carbonated water	.....	.....	.....	.....
Orange.....	141.9	.27	.038	.....	(c. c.).....	100	.....	.....	.....
Cream.....	125	.48	.092	.....	Water (c. c.).....	1,700	.....	.....	.....
Bread.....	150	2.42	.148	.....	Sugar.....	29.5	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Total.....	3,610	13.83	1,237	.....
Fowl.....	150	5.82	.351	.....	<i>Mar. 9, 1911.</i>				
Peas.....	150	.86	.096	.....	Cream of wheat....	15	.30	.017	.....
Celery.....	100	.17	.028	.....	Egg.....	103.8	2.14	.246	.....
Potato.....	160	.62	.102	.....	Butter.....	50	.06	.011	.....
Ice cream.....	200	.74	.145	.....	Orange.....	120.6	.23	.033	.....
Grape juice (c. c.).....	200	.08	.014	.....	Cream.....	250	.98	.186	.....
Water (c. c.).....	1,500	.....	.....	.....	Bread.....	150	2.51	.147	.....
Sugar.....	22	.....	.....	.....	Jelly (grape).....	100	.04	.015	.....
Total.....	3,160	13.82	1.287	.....	Veal.....	150	5.36	.363	.....
<i>Mar. 6, 1911.</i>					Peas.....	150	.78	.084	.....
Oatmeal.....	15	.38	.070	.....	String beans.....	100	.27	.024	.....
Egg.....	94.6	1.95	.224	.....	Boiled potato.....	160	.61	.102	.....
Butter.....	50	.06	.011	.....	Peaches.....	250	.28	.044	.....
Orange.....	105.5	.20	.028	.....	Grape juice (c. c.).....	250	.10	.017	.....
Cream.....	250	.93	.186	.....	Carbonated water	.....	.....	.....	.....
Bread.....	150	2.42	.145	.....	(c. c.).....	100	.....	.....	.....
Jelly.....	100	.04	.006	.....	Water (c. c.).....	1,000	.....	.....	.....
Lamb.....	150	5.12	.335	.....	Sugar.....	25.5	.....	.....	.....
Peas.....	150	.84	.094	.....	Total.....	2,980	13.66	1,289	.....
Beets.....	100	.26	.077	.....	<i>Mar. 10, 1911.</i>				
Mashed potato.....	160	.54	.098	.....	Oatmeal.....	15	.38	.070	.....
Rice pudding.....	250	1.70	.299	.....	Egg.....	118.2	2.44	.280	.....
Grape juice (c. c.).....	125	.05	.009	.....	Butter.....	50	.06	.011	.....
Carbonated water	.....	.....	.....	.....	Sliced bananas.....	100	.21	.026	.....
(c. c.).....	50	.....	.....	.....	Cream.....	250	.93	.186	.....
Water (c. c.).....	1,500	.....	.....	.....	Bread.....	150	2.54	.148	.....
Sugar.....	26.3	.....	.....	.....	Jelly (grape).....	100	.04	.015	.....
Total.....	3,280	14.49	1.582	.....	Lamb.....	150	5.00	.330	.....
<i>Mar. 7, 1911.</i>					Peas.....	150	.80	.080	.....
Cream of wheat....	15	.30	.017	.....	Corn.....	100	.42	.068	.....
Egg.....	106.2	2.19	.252	.....	Boiled potato.....	160	.66	.091	.....
Butter.....	50	.06	.011	.....	Cherries.....	205.2	.27	.041	.....
Orange.....	118	.23	.032	.....	Cherry juice (c. c.).....	100	.07	.016	.....
Cream.....	250	.98	.190	.....	Grape juice (c. c.).....	300	.12	.020	.....
Bread.....	150	2.49	.144	.....	Carbonated water	.....	.....	.....	.....
Jelly.....	100	.04	.006	.....	(c. c.).....	100	.....	.....	.....
Beef.....	150	5.22	.321	.....	Water (c. c.).....	1,500	.....	.....	.....
Peas.....	150	.84	.089	.....	Sugar.....	26.5	.....	.....	.....
Lima beans.....	100	1.11	.099	.....	Total.....	3,580	13.94	1,382	.....
Boiled potato.....	160	.51	.105	.....				
Strawberries.....	150	.27	.044	.....				
Grape juice (c. c.).....	200	.08	.014	.....				

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 11, 1911.</i>					<i>Mar. 14, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Strawberries.....	200	0.28	0.058	.....
Egg.....	117.0	2.41	.277	.....	Strawberry juice...	150	.03	.010	.....
Butter.....	50	.06	.011	.....	Carbonated water				.....
Orange.....	85.2	.16	.023	.....	(c. c.).....	150	.....	.....	.....
Cream.....	250	.98	.190	.....	Water (c. c.).....	1,500	.....	.....	.....
Bread.....	150	2.51	.144	.....	Sugar.....	22.3	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Total.....	3,370	14.34	1.314	.....
Beef.....	150	5.61	.321	.....				
Peas.....	150	.81	.080	.....	<i>Mar. 15, 1911.</i>				
Mashed potato.....	160	.61	.103	.....	Oatmeal.....	15	.38	.070	.....
Rice, steamed.....	100	.35	.020	.....	Egg.....	112.75	2.32	.267	.....
Peas.....	225	.14	.028	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.)..	400	.16	.027	.....	Sliced bananas.....	100	.19	.037	.....
Carbonated water				.....	Cream.....	250	.93	.194	.....
(c. c.).....	100	.....	.....	.....	Bread.....	150	2.60	.143	.....
Water (c. c.).....	1,500	.....	.....	.....	Jelly (currant).....	100	.04	.007	.....
Sugar.....	26.5	.....	.....	.....	Fowl.....	150	5.33	.321	.....
Total.....	3,530	14.14	1.256	.....	Peas.....	150	.81	.080	.....
					Hominy.....	100	.33	.011	.....
<i>Mar. 12, 1911.</i>					Sweet potato.....	160	.40	.059	.....
Cream of wheat....	15	.30	.017	.....	Water ice.....	200	.02	.011	.....
Egg.....	100.6	2.07	.239	.....	Grape juice (c. c.)..	300	.12	.020	.....
Butter.....	50	.06	.011	.....	Carbonated water				.....
Orange.....	104.3	.20	.028	.....	(c. c.).....	100	.....	.....	.....
Cream.....	125	.45	.090	.....	Water (c. c.).....	1,250	.....	.....	.....
Bread.....	150	2.52	.149	.....	Sugar.....	35.2	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Total.....	3,220	13.53	1.231	.....
Fowl.....	150	5.15	.311	.....				
Peas.....	150	.81	.080	.....	<i>Mar. 16, 1911.</i>				
Celery.....	100	.14	.034	.....	Cream of wheat....	15	.30	.017	.....
Boiled potato.....	160	.62	.106	.....	Egg.....	110.0	2.27	.261	.....
Ice cream.....	250	.93	.164	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.)..	400	.16	.027	.....	Orange.....	135.5	.26	.037	.....
Carbonated water				.....	Cream.....	250	.95	.194	.....
(c. c.).....	100	.....	.....	.....	Bread.....	150	2.51	.139	.....
Water (c. c.).....	1,200	.....	.....	.....	Jelly (currant).....	100	.04	.007	.....
Sugar.....	21.8	.....	.....	.....	Veal.....	150	5.37	.341	.....
Total.....	3,180	13.45	1.271	.....	Peas.....	150	.78	.079	.....
					String beans.....	100	.27	.028	.....
<i>Mar. 13, 1911.</i>					Boiled potato.....	160	.66	.097	.....
Oatmeal.....	15	.38	.070	.....	Peaches.....	250	.28	.044	.....
Egg.....	115.5	2.38	.274	.....	Peach juice.....	75	.05	.011	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	400	.16	.027	.....
Orange.....	103.7	.20	.028	.....	Carbonated water				.....
Cream.....	250	.93	.186	.....	(c. c.).....	100	.....	.....	.....
Bread.....	150	2.49	.145	.....	Water (c. c.).....	1,200	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Sugar.....	23.5	.....	.....	.....
Lamb.....	150	5.00	.311	.....	Total.....	3,420	13.96	1.293	.....
Peas.....	150	.81	.083	.....				
Beets.....	100	.27	.086	.....	<i>Mar. 17, 1911.</i>				
Mashed potato.....	160	.58	.099	.....	Oatmeal.....	15	.38	.070	.....
Rice pudding.....	200	1.44	.280	.....	Egg.....	110.7	2.28	.262	.....
Grape juice (c. c.)..	500	.20	.034	.....	Butter.....	50	.06	.011	.....
Carbonated water				.....	Sliced bananas.....	100	.23	.021	.....
(c. c.).....	200	.....	.....	.....	Cream.....	250	.95	.188	.....
Water (c. c.).....	1,500	.....	.....	.....	Bread.....	150	2.49	.138	.....
Sugar.....	21.5	.....	.....	.....	Jelly (currant).....	100	.04	.007	.....
Total.....	3,770	14.78	1.622	.....	Lamb.....	150	4.92	.315	.....
					Peas.....	150	.77	.077	.....
<i>Mar. 14, 1911.</i>					Corn.....	100	.33	.062	.....
Cream of wheat....	15	.30	.017	.....	Mashed potato.....	160	.58	.115	.....
Egg.....	112.2	2.31	.266	.....	Cherries.....	170	.23	.034	.....
Butter.....	50	.06	.011	.....	Cherry juice.....	150	.11	.024	.....
Orange.....	114.5	.22	.031	.....	Grape juice (c. c.)..	400	.16	.027	.....
Cream.....	250	.95	.188	.....	Carbonated water				.....
Bread.....	150	2.49	.139	.....	(c. c.).....	100	.....	.....	.....
Jelly (currant).....	100	.04	.007	.....	Water (c. c.).....	1,200	.....	.....	.....
Beef.....	150	5.07	.306	.....	Sugar.....	26.5	.....	.....	.....
Peas.....	150	.81	.084	.....	Total.....	3,380	13.53	1.351	.....
Lima beans.....	100	1.24	.102	.....				
Boiled potato.....	160	.54	.093	.....				

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 18, 1911.</i>					<i>Mar. 21, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Boiled potato.....	160	0.56	0.112	.....
Egg.....	109.5	2.26	.259	.....	Strawberries.....	200	.42	.058	.....
Butter.....	50	.06	.011	.....	Strawberry juice..	150	.03	.010	.....
Orange.....	145.5	.28	.039	.....	Grape juice (c. c.)..	500	.20	.034	.....
Cream.....	250	.93	.188	.....	Carbonated water				.....
Bread.....	150	2.40	.136	.....	(c. c.).....	100			.....
Jelly (crab apple)..	100	.01	.006	.....	Water (c. c.).....	1,200			.....
Beef.....	150	5.46	.306	.....	Sugar.....	20.8			.....
Peas.....	150	.77	.080	.....	Total.....	3,520	15.61	1.372	.....
Boiled potato.....	160	.51	.095	.....				
Rice, steamed.....	100	.27	.032	.....	<i>Mar. 22, 1911.</i>				
Peas.....	250	.15	.031	.....				
Pear juice.....	75	.02	.008	.....	Oatmeal.....	15	.38	.070	.....
Grape juice (c. c.)..	400	.16	.027	.....	Egg.....	107	2.20	.254	.....
Carbonated water				.....	Butter.....	50	.06	.011	.....
(c. c.).....	100			.....	Sliced bananas.....	100	.20	.021	.....
Water (c. c.).....	1,500			.....	Cream.....	250	1.03	.188	.....
Sugar.....	27.5			.....	Bread.....	150	2.57	.134	.....
Total.....	3,730	13.58	1.235	.....	Jelly (crab apple)..	100	.01	.006	.....
<i>Mar. 19, 1911.</i>					Fowl.....	150	5.79	.294	.....
					Peas.....	150	.86	.083	.....
Cream of wheat....	15	.30	.017	.....	Hominy.....	100	.38	.011	.....
Egg.....	112.3	2.31	.266	.....	Sweet potato.....	160	.40	.063	.....
Butter.....	50	.06	.011	.....	Water ice.....	250	.03	.014	.....
Orange.....	97.5	.19	.026	.....	Grape juice (c. c.)..	400	.16	.027	.....
Cream.....	125	.48	.094	.....	Carbonated water				.....
Bread.....	150	2.49	.135	.....	(c. c.).....	100			.....
Jelly (raspberry				.....	Water (c. c.).....	1,230			.....
and currant).....	100	.04	.007	.....	Sugar.....	41.2			.....
Fowl.....	150	5.66	.305	.....	Total.....	3,320	14.07	1.176	.....
Peas.....	150	.81	.080	.....				
Celery.....	100	.19	.049	.....	<i>Mar. 23, 1911.</i>				
Boiled potato.....	160	.59	.116	.....				
Ice cream.....	250	.95	.179	.....	Cream of wheat....	15	.30	.017	.....
Grape juice (c. c.)..	400	.16	.027	.....	Egg.....	106.5	2.19	.253	.....
Carbonated water				.....	Butter.....	50	.06	.011	.....
(cc).....	100			.....	Orange.....	140	.27	.038	.....
Water (c. c.).....	1,800			.....	Cream.....	250	.90	.177	.....
Sugar.....	23			.....	Bread.....	150	2.45	.139	.....
Total.....	3,780	14.23	1.312	.....	Jelly (grape).....	100	.04	.015	.....
<i>Mar. 20, 1911.</i>					Veal.....	150	5.93	.344	.....
					Peas.....	150	.74	.075	.....
Oatmeal.....	15	.38	.070	.....	String beans.....	100	.26	.026	.....
Egg.....	109	2.25	.258	.....	Boiled potato.....	160	.64	.115	.....
Butter.....	50	.06	.011	.....	Peaches.....	250	.28	.044	.....
Orange.....	120.5	.23	.033	.....	Peach juice.....	150	.09	.021	.....
Cream.....	250	.98	.190	.....	Grape juice (c. c.)..	400	.16	.027	.....
Bread.....	150	2.54	.135	.....	Carbonated water				.....
Jelly (raspberry				.....	(c. c.).....	100			.....
and currant).....	100	.04	.007	.....	Water (c. c.).....	100			.....
Lamb.....	150	5.13	.315	.....	Sugar.....	31.5			.....
Peas.....	150	.80	.079	.....	Total.....	2,400	14.31	1.302	.....
Beets.....	100	.42	.064	.....				
Mashed potato.....	160	.51	.078	.....	<i>Mar. 24, 1911.</i>				
Rice pudding.....	250	2.05	.316	.....				
Grape juice (c. c.)..	500	.20	.034	.....	Oatmeal.....	15	.38	.070	.....
Carbonated water				.....	Egg.....	99	2.04	.235	.....
(c. c.).....	100			.....	Butter.....	50	.06	.011	.....
Water (c. c.).....	1,500			.....	Sliced bananas.....	100	.17	.024	.....
Sugar.....	23			.....	Cream.....	250	.98	.186	.....
Total.....	3,730	15.59	1.590	.....	Bread.....	150	2.39	.136	.....
<i>Mar. 21, 1911.</i>					Jelly (grape).....	100	.04	.015	.....
					Lamb.....	150	5.76	.318	.....
Cream of wheat....	15	.30	.017	.....	Peas.....	150	.80	.076	.....
Egg.....	107.3	2.20	.254	.....	Corn.....	100	.39	.069	.....
Butter.....	50	.06	.011	.....	Mashed potato.....	160	.58	.105	.....
Orange.....	112.8	.22	.030	.....	Cherries.....	192	.25	.038	.....
Cream.....	250	1.03	.199	.....	Cherry juice.....	150	.11	.024	.....
Bread.....	150	2.52	.136	.....	Grape juice (c. c.)..	400	.16	.027	.....
Jelly (crab apple)..	100	.01	.006	.....	Carbonated water				.....
Beef.....	150	5.90	.321	.....	(c. c.).....	100			.....
Peas.....	150	.89	.084	.....	Water (c. c.).....	1,000			.....
Lima beans.....	100	1.27	.100	.....	Sugar.....	23.5			.....
					Total.....	3,190	14.11	1.334	.....

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 25, 1911.</i>					<i>Mar. 28, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Strawberries.....	200	0.28	0.058	.....
Egg.....	104.2	2.14	.247	.....	Strawberry juice...	150	.03	.010	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	400	.16	.027	.....
Orange.....	97	.19	.026	.....	Carbonated water				
Cream.....	250	.98	.154	.....	(c. c.).....	75	.....	.....	.....
Bread.....	150	2.36	.138	.....	Water (c. c.).....	800	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Sugar.....	25.5	.....	.....	.....
Beef.....	150	5.97	.318	.....				
Peas.....	150	.80	.080	.....	Total.....	2,980	15.13	1.325	.....
Boiled potato.....	160	.50	.087	.....				
Rice, steamed.....	100	.34	.034	.....	<i>Mar. 29, 1911.</i>				
Peas.....	250	.15	.031	.....				
Pear juice.....	150	.05	.016	.....	Oatmeal.....	15	.38	.070	.....
Grape juice (c. c.)..	200	.08	.014	.....	Egg.....	111.5	2.30	.264	.....
Carbonated water					Butter.....	50	.06	.011	.....
(c. c.).....	50	.....	.....	.....	Sliced bananas.....	100	.23	.021	.....
Water (c. c.).....	100	.....	.....	.....	Cream.....	250	1.03	.192	.....
Sugar.....	28	.....	.....	.....	Bread.....	150	2.58	.139	.....
Total.....	2,100	13.96	1.218	.....	Jelly (quince).....	100	.01	.006	.....
<i>Mar. 26, 1911.</i>					Fowl.....	150	5.73	.321	.....
					Peas.....	150	.78	.081	.....
Cream of wheat....	15	.30	.017	.....	Hominy.....	100	.39	.013	.....
Egg.....	106.5	2.19	.253	.....	Sweet potato.....	160	.35	.060	.....
Butter.....	50	.06	.011	.....	Water ice.....	250	.03	.014	.....
Orange.....	95.5	.18	.026	.....	Grape juice (c. c.)..	400	.16	.027	.....
Cream.....	125	.49	.093	.....	Carbonated water				
Bread.....	150	2.42	.143	.....	(c. c.).....	100	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Water (c. c.).....	100	.....	.....	.....
Fowl.....	150	5.46	.311	.....	Sugar.....	32	.....	.....	.....
Peas.....	150	.77	.083	.....	Total.....	2,220	14.03	1.219	.....
Celery.....	100	.21	.046	.....				
Boiled potato.....	160	.66	.081	.....	<i>Mar. 30, 1911.</i>				
Ice cream.....	250	.95	.175	.....				
Grape juice (c. c.)..	400	.16	.027	.....	Cream of wheat....	15	.30	.017	.....
Carbonated water					Egg.....	96.2	1.98	.228	.....
(c. c.).....	100	.....	.....	.....	Butter.....	50	.06	.011	.....
Water (c. c.).....	1,500	.....	.....	.....	Orange.....	85	.16	.023	.....
Sugar.....	25	.....	.....	.....	Cream.....	250	.93	.190	.....
Total.....	3,450	13.89	1.251	.....	Bread.....	150	2.40	.131	.....
<i>Mar. 27, 1911.</i>					Jelly (currant and				
					raspberry).....	100	.04	.007	.....
Oatmeal.....	15	.38	.070	.....	Veal.....	150	5.45	.368	.....
Egg.....	100	2.06	.237	.....	Peas.....	150	.83	.084	.....
Butter.....	50	.06	.011	.....	String beans.....	100	.27	.027	.....
Orange.....	102	.19	.028	.....	Boiled potato.....	160	.46	.110	.....
Cream.....	250	.98	.190	.....	Peaches.....	250	.28	.044	.....
Bread.....	150	2.45	.139	.....	Peach juice.....	100	.06	.014	.....
Jelly (currant and					Grape juice (c. c.)..	400	.16	.027	.....
raspberry).....	100	.04	.007	.....	Carbonated water				
Lamb.....	150	5.67	.321	.....	(c. c.).....	100	.....	.....	.....
Peas.....	150	.84	.083	.....	Water (c. c.).....	1,000	.....	.....	.....
Beets.....	100	.36	.054	.....	Sugar.....	21.5	.....	.....	.....
Mashed potato.....	160	.51	.105	.....	Total.....	3,180	13.38	1.276	.....
Rice pudding.....	250	1.58	.260	.....				
Grape juice (c. c.)..	600	.24	.041	.....	<i>Mar. 31, 1911.</i>				
Carbonated water									
(c. c.).....	150	.....	.....	.....	Oatmeal.....	15	.38	.070	.....
Water (c. c.).....	1,500	.....	.....	.....	Egg.....	95.7	1.97	.227	.....
Sugar.....	40	.....	.....	.....	Butter.....	50	.06	.011	.....
Total.....	3,870	15.36	1.546	.....	Orange.....	67	.13	.018	.....
<i>Mar. 28, 1911.</i>					Cream.....	250	.90	.194	.....
					Bread.....	150	2.34	.140	.....
Cream of wheat....	15	.30	.017	.....	Jelly (grape).....	100	.04	.015	.....
Egg.....	100	2.06	.237	.....	Lamb.....	150	5.42	.315	.....
Butter.....	50	.06	.011	.....	Peas.....	150	.80	.080	.....
Orange.....	107.5	.21	.029	.....	Corn.....	100	.36	.066	.....
Cream.....	250	.95	.188	.....	Mashed potato.....	160	.45	.096	.....
Bread.....	150	2.52	.143	.....	Cherries.....	179	.24	.035	.....
Jelly (currant and					Cherry juice.....	100	.07	.016	.....
raspberry).....	100	.04	.007	.....	Grape juice (c. c.)..	400	.16	.027	.....
Beef.....	150	5.91	.318	.....	Carbonated water				
Peas.....	150	.84	.086	.....	(c. c.).....	100	.....	.....	.....
Lima beans.....	100	1.29	.093	.....	Water (c. c.).....	1,200	.....	.....	.....
Boiled potato.....	160	.48	.101	.....	Sugar.....	26	.....	.....	.....
					Total.....	3,290	13.32	1.310	.....

CHART I.—*Diet*—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Apr. 1, 1911.</i>					<i>Apr. 4, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Strawberry juice....	100	0.02	0.007	.....
Egg.....	104.2	2.15	.247	.....	Grape juice (c. c.)..	600	.24	.041	.....
Butter.....	50	.06	.011	.....	Carbonated water				
Sliced bananas....	100	.17	.033	.....	(c. c.).....	100	.....	.....	.....
Cream.....	250	.95	.184	.....	Water (c. c.).....	1,000	.....	.....	.....
Bread.....	150	2.22	.127	.....	Sugar.....	23.5	.....	.....	.....
Jelly (quince)....	100	.01	.006	.....	Total.....	3,370	15.54	1.364	.....
Beef.....	150	5.93	.321	.....	<i>Apr. 5, 1911.</i>				
Peas.....	150	.81	.083	.....	Oatmeal.....	15	.38	.070	.....
Boiled potato....	160	.56	.073	.....	Egg.....	112	2.31	.265	.....
Rice, steamed.....	100	.28	.020	.....	Butter.....	50	.06	.011	.....
Pears.....	250	.15	.031	.....	Sliced bananas....	100	.19	.026	.....
Pear juice.....	100	.03	.010	.....	Cream.....	250	.88	.188	.....
Grape juice (c. c.)..	600	.24	.041	.....	Bread.....	150	2.48	.134	.....
Carbonated water					Jelly (currant and				
(c. c.).....	125	.....	.....	.....	raspberry).....	100	.04	.007	.....
Sugar.....	23.5	.....	.....	.....	Fowl.....	150	5.69	.324	.....
Total.....	2,430	13.86	1.204	.....	Peas.....	150	.81	.086	.....
<i>Apr. 2, 1911.</i>					Hominy.....	100	.37	.011	.....
Cream of wheat....	15	.30	.017	.....	Sweet potato.....	160	.27	.069	.....
Egg.....	102.5	2.11	.243	.....	Water ice.....	250	.03	.014	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	400	.16	.027	.....
Orange.....	101	.19	.027	.....	Carbonated water				
Cream.....	125	.48	.095	.....	(c. c.).....	75	.....	.....	.....
Bread.....	150	2.34	.135	.....	Water (c. c.).....	1,200	.....	.....	.....
Jelly (crab apple)..	100	.01	.006	.....	Sugar.....	23	.....	.....	.....
Fowl.....	150	5.64	.302	.....	Total.....	3,290	13.67	1.232	.....
Peas.....	150	.83	.088	.....	<i>Apr. 6, 1911.</i>				
Celery.....	100	.17	.031	.....	Cream of wheat....	15	.30	.017	.....
Boiled potato....	160	.51	.108	.....	Egg.....	93.5	1.93	.222	.....
Ice cream.....	250	.90	.179	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.)..	400	.16	.027	.....	Orange.....	78.5	.15	.021	.....
Carbonated water					Cream.....	250	.95	.188	.....
(c. c.).....	100	.....	.....	.....	Bread.....	150	2.25	.136	.....
Water (c. c.).....	1,200	.....	.....	.....	Jelly (quince)....	100	.01	.006	.....
Sugar.....	25	.....	.....	.....	Veal.....	150	5.51	.344	.....
Total.....	3,180	13.70	1.269	.....	Peas.....	150	.81	.089	.....
<i>Apr. 3, 1911.</i>					String beans.....	100	.27	.025	.....
Oatmeal.....	15	.38	.070	.....	Boiled potato....	160	.59	.067	.....
Egg.....	102	2.10	.242	.....	Peaches.....	250	.28	.044	.....
Butter.....	50	.06	.011	.....	Peach juice.....	100	.06	.014	.....
Orange.....	107	.20	.029	.....	Grape juice (c. c.)..	500	.20	.034	.....
Cream.....	250	.98	.186	.....	Carbonated water				
Bread.....	150	2.39	.136	.....	(c. c.).....	100	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Water (c. c.).....	1,500	.....	.....	.....
Lamb.....	150	6.06	.347	.....	Sugar.....	18	.....	.....	.....
Peas.....	150	.81	.079	.....	Total.....	3,770	13.37	1.218	.....
Beets.....	100	.23	.043	.....	<i>Apr. 7, 1911.</i>				
Mashed potato....	160	.46	.094	.....	Oatmeal.....	15	.38	.070	.....
Rice pudding.....	250	1.63	.271	.....	Egg.....	91	1.87	.216	.....
Grape juice (c. c.)..	600	.24	.041	.....	Butter.....	50	.06	.011	.....
Carbonated water					Sliced bananas....	100	.24	.029	.....
(c. c.).....	200	.....	.....	.....	Cream.....	250	.88	.190	.....
Water (c. c.).....	1,000	.....	.....	.....	Bread.....	150	2.60	.142	.....
Sugar.....	16	.....	.....	.....	Jelly (quince)....	100	.01	.006	.....
Total.....	3,400	15.58	1.564	.....	Lamb.....	150	5.40	.318	.....
<i>Apr. 4, 1911.</i>					Peas.....	150	.89	.088	.....
Cream of wheat....	15	.30	.017	.....	Corn.....	100	.35	.070	.....
Egg.....	107.5	2.21	.255	.....	Mashed Potato....	160	.48	.102	.....
Butter.....	50	.06	.011	.....	Cherries.....	187	.24	.037	.....
Orange.....	107.8	.21	.029	.....	Cherry juice.....	100	.07	.016	.....
Cream.....	250	.98	.188	.....	Grape juice (c. c.)..	600	.24	.041	.....
Bread.....	150	2.46	.139	.....	Carbonated water				
Jelly (quince)....	100	.01	.006	.....	(c. c.).....	100	.....	.....	.....
Beef.....	150	6.11	.321	.....	Water (c. c.).....	1,200	.....	.....	.....
Peas.....	150	.80	.086	.....	Sugar.....	18	.....	.....	.....
Lima beans.....	100	1.37	.110	.....	Total.....	3,520	13.71	1.336	.....
Boiled potato....	160	.45	.096	.....				
Strawberries.....	200	.32	.058	.....				

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 8, 1911.</i>					<i>Apr. 11, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Strawberries.....	200	0.34	0.058	.....
Egg.....	92	1.90	.218	.....	Strawberry juice....	100	.02	.007	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	600	.24	.041	.....
Orange.....	101	.19	.027	.....	Carbonated water				
Cream.....	250	.95	.186	.....	(c. c.).....	100	.....	.....	.....
Bread.....	150	2.37	.134	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (crab apple)..	100	.01	.006	.....	Sugar.....	21	.....	.....	.....
Beef.....	150	5.85	.321	.....	Total.....	3,320	15.05	1.360	.....
Peas.....	150	.83	.089	.....				
Boiled potato.....	160	.53	.113	.....	<i>Apr. 12, 1911.</i>				
Rice, steamed.....	100	.41	.032	.....	Oatmeal.....	15	.38	.070	.....
Peas.....	250	.15	.031	.....	Egg.....	94.5	1.95	.224	.....
Pear juice.....	100	.03	.010	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.)..	400	.16	.027	.....	Sliced bananas.....	100	.18	.039	.....
Carbonated water					Cream.....	250	.95	.192	.....
(c. c.).....	75	.....	.....	.....	Bread.....	150	2.34	.143	.....
Water (c. c.).....	1,200	.....	.....	.....	Jelly (crab apple)..	100	.01	.006	.....
Sugar.....	24.5	.....	.....	.....	Fowl.....	150	5.51	.311	.....
Total.....	3,370	13.74	1.222	.....	Peas.....	150	.90	.088	.....
					Hominy.....	100	.41	.014	.....
<i>Apr. 9, 1911.</i>					Sweet potato.....	160	.26	.082	.....
Cream of wheat....	15	.30	.017	.....	Water ice.....	250	.03	.014	.....
Egg.....	108.5	2.24	.257	.....	Grape juice (c. c.)..	400	.24	.027	.....
Butter.....	50	.06	.011	.....	Carbonated water				
Orange.....	102	.19	.028	.....	(c. c.).....	75	.....	.....	.....
Cream.....	125	.50	.095	.....	Water (c. c.).....	1,000	.....	.....	.....
Bread.....	150	2.46	.136	.....	Sugar.....	20	.....	.....	.....
Jelly (currant)....	100	.04	.007	.....	Total.....	2,920	13.22	1.221	.....
Fowl.....	150	5.32	.312	.....				
Peas.....	150	.93	.088	.....	<i>Apr. 13, 1911.</i>				
Celery.....	100	.12	.036	.....	Cream of wheat....	15	.30	.017	.....
Boiled potato.....	160	.38	.102	.....	Egg.....	106	2.18	.251	.....
Ice cream.....	250	.93	.181	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.)..	700	.28	.048	.....	Orange.....	122	.23	.033	.....
Carbonated water					Cream.....	250	.93	.190	.....
(c. c.).....	100	.....	.....	.....	Bread.....	150	2.52	.138	.....
Water (c. c.).....	1,200	.....	.....	.....	Jelly (grape).....	100	.04	.015	.....
Sugar.....	14.5	.....	.....	.....	Veal.....	150	5.72	.341	.....
Total.....	3,480	13.75	1.318	.....	Peas.....	150	.84	.092	.....
					String beans.....	100	.27	.026	.....
<i>Apr. 10, 1911.</i>					Boiled potato.....	160	.37	.080	.....
Oatmeal.....	15	.38	.070	.....	Peaches.....	250	.28	.044	.....
Egg.....	117	2.41	.277	.....	Peach juice.....	100	.06	.014	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	400	.16	.027	.....
Orange.....	101.5	.19	.027	.....	Carbonated water				
Cream.....	250	.93	.179	.....	(c. c.).....	100	.....	.....	.....
Bread.....	150	2.22	.131	.....	Water (c. c.).....	1,100	.....	.....	.....
Jelly (currant)....	100	.04	.007	.....	Sugar.....	19	.....	.....	.....
Lamb.....	150	5.60	.321	.....	Total.....	3,320	13.96	1.279	.....
Peas.....	150	.80	.092	.....				
Beets.....	100	.33	.045	.....	<i>Apr. 14, 1911.</i>				
Mashed potato.....	160	.53	.096	.....	Oatmeal.....	15	.38	.070	.....
Rice pudding.....	250	1.50	.267	.....	Egg.....	97	2.00	.230	.....
Grape juice (c. c.)..	600	.24	.041	.....	Butter.....	50	.06	.011	.....
Carbonated water					Sliced bananas.....	100	.19	.028	.....
(c. c.).....	125	.....	.....	.....	Cream.....	250	1.08	.199	.....
Water (c. c.).....	1,300	.....	.....	.....	Bread.....	150	2.45	.140	.....
Sugar.....	22	.....	.....	.....	Jelly (crab apple)..	100	.01	.006	.....
Total.....	3,640	15.23	1.564	.....	Lamb.....	150	5.00	.311	.....
					Peas.....	150	.81	.089	.....
<i>Apr. 11, 1911.</i>					Corn.....	100	.40	.065	.....
Cream of wheat....	15	.30	.017	.....	Mashed potato.....	160	.50	.094	.....
Egg.....	103.3	2.17	.250	.....	Cherries.....	178	.24	.035	.....
Butter.....	50	.06	.011	.....	Cherry juice.....	100	.07	.016	.....
Orange.....	121	.23	.033	.....	Grape juice (c. c.)..	650	.26	.044	.....
Cream.....	250	.95	.184	.....	Carbonated water				
Bread.....	150	2.46	.143	.....	(c. c.).....	125	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Water (c. c.).....	1,400	.....	.....	.....
Beef.....	150	5.55	.315	.....	Sugar.....	27	.....	.....	.....
Peas.....	170	.81	.099	.....	Total.....	3,800	13.45	1.338	.....
Lima beans.....	160	1.27	.102	.....				
Boiled potato.....	160	.61	.095	.....				

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 15, 1911.</i>					<i>Apr. 18, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Strawberries.....	200	0.42	0.058	.....
Egg.....	103	2.12	.244	.....	Strawberry juice.....	100	.02	.007	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	700	.28	.048	.....
Orange.....	104.5	.20	.028	.....	Carbonated water				
Cream.....	250	.98	.190	.....	(c. c.).....	200	.....	.....	.....
Bread.....	150	2.46	.143	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Sugar.....	20.5	.....	.....	.....
Beef.....	150	6.00	.335	.....				
Peas.....	150	.84	.092	.....	Total.....	3,590	15.40	1.387	.....
Boiled potato.....	160	.46	.094	.....				
Rice, steamed.....	100	.36	.027	.....	<i>Apr. 19, 1911.</i>				
Pears.....	250	.15	.031	.....				
Pear juice.....	100	.03	.010	.....	Oatmeal.....	15	.38	.070	.....
Grape juice (c. c.)..	500	.20	.034	.....	Egg.....	107.5	2.21	.255	.....
Carbonated water					Butter.....	50	.06	.011	.....
(c. c.).....	125	.....	.....	.....	Sliced bananas.....	100	.17	.028	.....
Water (c. c.).....	100	.....	.....	.....	Cream.....	250	.98	.194	.....
Sugar.....	25.5	.....	.....	.....	Bread.....	150	2.36	.134	.....
Total.....	2,430	14.20	1.271	.....	Jelly (currant).....	100	.04	.007	.....
					Fowl.....	150	5.37	.321	.....
<i>Apr. 16, 1911.</i>					Peas.....	150	.74	.085	.....
					Hominy.....	100	.43	.013	.....
Cream of wheat....	15	.30	.017	.....	Sweet potato.....	160	.35	.096	.....
Egg.....	107.5	2.21	.255	.....	Water ice.....	250	.03	.014	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	800	.32	.054	.....
Orange.....	120	.23	.032	.....	Carbonated water				
Cream.....	125	.44	.035	.....	(c. c.).....	250	.....	.....	.....
Bread.....	150	2.42	.147	.....	Water (c. c.).....	1,500	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Sugar.....	36	.....	.....	.....
Fowl.....	150	5.55	.318	.....	Total.....	4,170	13.44	1.282	.....
Peas.....	150	.76	.050	.....				
Celery.....	100	.15	.031	.....	<i>Apr. 20, 1911.</i>				
Boiled potato.....	160	.38	.081	.....				
Ice cream.....	250	1.01	.185	.....	Cream of wheat....	15	.30	.017	.....
Grape juice (c. c.)..	400	.16	.027	.....	Egg.....	101	2.08	.239	.....
Carbonated water					Butter.....	50	.06	.011	.....
(c. c.).....	100	.....	.....	.....	Orange.....	89	.17	.024	.....
Water (c. c.).....	1,000	.....	.....	.....	Cream.....	250	.90	.181	.....
Sugar.....	24.5	.....	.....	.....	Bread.....	150	2.31	.140	.....
Total.....	3,000	13.71	1.294	.....	Jelly (grape).....	100	.04	.015	.....
					Veal.....	150	5.31	.360	.....
<i>Apr. 17, 1911.</i>					Peas.....	150	.83	.090	.....
					String beans.....	100	.30	.034	.....
Oatmeal.....	15	.38	.070	.....	Boiled potato.....	160	.38	.098	.....
Egg.....	101	2.08	.239	.....	Peaches.....	250	.28	.044	.....
Butter.....	50	.06	.011	.....	Peach juice.....	100	.06	.014	.....
Orange.....	127	.24	.034	.....	Grape juice (c. c.)..	500	.20	.034	.....
Cream.....	250	.95	.188	.....	Carbonated water				
Bread.....	150	2.33	.138	.....	(c. c.).....	100	.....	.....	.....
Jelly (crab apple)...	100	.01	.006	.....	Water (c. c.).....	700	.....	.....	.....
Lamb.....	150	6.11	.354	.....	Sugar.....	17	.....	.....	.....
Peas.....	150	.78	.093	.....	Total.....	2,980	13.22	1.301	.....
Beets.....	60	.18	.040	.....				
Mashed potato.....	160	.59	.116	.....	<i>Apr. 21, 1911.</i>				
Rice pudding.....	250	1.38	.275	.....				
Grape juice (c. c.)..	800	.32	.054	.....	Oatmeal.....	15	.38	.070	.....
Carbonated water					Egg.....	102	2.10	.242	.....
(c. c.).....	200	.....	.....	.....	Butter.....	50	.06	.011	.....
Water (c. c.).....	700	.....	.....	.....	Slice 1 bananas.....	100	.20	.022	.....
Sugar.....	23.5	.....	.....	.....	Cream.....	250	.85	.184	.....
Total.....	3,290	15.41	1.618	.....	Bread.....	150	2.37	.144	.....
					Jelly (grape).....	100	.04	.015	.....
<i>Apr. 18, 1911.</i>					Lamb.....	150	5.28	.335	.....
					Peas.....	150	.78	.096	.....
Cream of wheat....	15	.30	.017	.....	Corn.....	100	.40	.071	.....
Egg.....	112.5	2.32	.267	.....	Mashed potato.....	160	.42	.090	.....
Butter.....	50	.06	.011	.....	Cherries.....	178	.24	.035	.....
Orange.....	130	.25	.035	.....	Cherry juice.....	100	.07	.016	.....
Cream.....	250	.93	.190	.....	Grape juice (c. c.)..	600	.24	.041	.....
Bread.....	150	2.43	.144	.....	Carbonated water				
Jelly (currant).....	100	.04	.007	.....	(c. c.).....	150	.....	.....	.....
Beef.....	150	5.48	.321	.....	Water (c. c.).....	1,200	.....	.....	.....
Peas.....	150	.93	.093	.....	Sugar.....	17	.....	.....	.....
Lima beans.....	100	1.32	.113	.....	Total.....	3,570	13.43	1.372	.....
Boiled potato.....	160	.62	.076	.....				

CHART I.—*Diet*—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 22, 1911.</i>					<i>Apr. 25, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	15	0.30	0.017	.....	Boiled potato.....	160	0.46	0.101	.....
Egg.....	102	2.10	.242	.....	Strawberries.....	200	.42	.058	.....
Butter.....	50	.06	.011	.....	Strawberry juice.....	100	.02	.007	.....
Orange.....	113.5	.22	.031	.....	Grape juice (c. c.)..	750	.30	.051	.....
Cream.....	250	.83	.184	.....	Carbonated water				.....
Bread.....	150	2.40	.143	.....	(c. c.).....	200			.....
Jelly (currant).....	100	.04	.007	.....	Water (c. c.).....	1,500			.....
Beef.....	150	5.84	.315	.....	Sugar.....	17			.....
Peas.....	150	.78	.081	.....	Total.....	4,100	14.86	1.391	.....
Boiled potato.....	160	.40	.096	.....	<i>Apr. 26, 1911.</i>				
Rice, steamed.....	100	.34	.030	.....	Oatmeal.....	15	.38	.070	.....
Peas.....	250	.15	.031	.....	Egg.....	106.5	2.19	.252	.....
Pear juice.....	100	.03	.010	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.)..	600	.24	.041	.....	Sliced bananas.....	100	.19	.034	.....
Carbonated water				.....	Cream.....	250	.90	.192	.....
(c. c.).....	100			.....	Bread.....	150	2.27	.140	.....
Water (c. c.).....	1,000			.....	Jelly (grape).....	100	.04	.015	.....
Sugar.....	13			.....	Fowl.....	150	5.48	.324	.....
Total.....	3,400	13.73	1.239	.....	Peas.....	150	.80	.093	.....
<i>Apr. 23, 1911.</i>					Hominy.....	100	.38	.014	.....
Cream of wheat.....	15	.30	.017	.....	Sweet potato.....	160	.48	.091	.....
Egg.....	102.5	2.11	.243	.....	Water ice.....	250	.03	.014	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	600	.24	.041	.....
Orange.....	90	.17	.024	.....	Carbonated water				.....
Cream.....	125	.45	.092	.....	(c. c.).....	125			.....
Bread.....	150	2.37	.138	.....	Water (c. c.).....	1,500			.....
Jelly (quince).....	100	.01	.006	.....	Sugar.....	24			.....
Fowl.....	150	5.39	.311	.....	Total.....	3,830	13.52	1.291	.....
Peas.....	150	.83	.087	.....	<i>Apr. 27, 1911.</i>				
Celery.....	100	.15	.028	.....	Cream of wheat.....	15	.30	.017	.....
Boiled potato.....	160	.45	.080	.....	Egg.....	103.5	2.13	.245	.....
Ice cream.....	250	.90	.175	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.)..	400	.16	.027	.....	Orange.....	121.5	.23	.033	.....
Carbonated water				.....	Cream.....	250	.93	.190	.....
(c. c.).....	100			.....	Bread.....	150	2.33	.148	.....
Water (c. c.).....	1500			.....	Jelly (quince).....	100	.01	.006	.....
Sugar.....	16			.....	Veal.....	150	5.57	.354	.....
Total.....	3,460	13.35	1.239	.....	Peas.....	150	.80	.092	.....
<i>Apr. 24, 1911.</i>					String beans.....	100	.30	.031	.....
Oatmeal.....	15	.38	.070	.....	Boiled potato.....	160	.42	.087	.....
Egg.....	117.5	2.42	.279	.....	Peaches.....	250	.28	.044	.....
Butter.....	50	.06	.011	.....	Peach juice.....	100	.06	.014	.....
Orange.....	113	.22	.031	.....	Grape juice (c. c.)..	600	.24	.041	.....
Cream.....	250	.95	.192	.....	Water (c. c.).....	1,200			.....
Bread.....	150	2.16	.142	.....	Sugar.....	18.5			.....
Jelly (currant).....	100	.04	.007	.....	Total.....	3,520	13.66	1.313	.....
Lamb.....	150	5.27	.324	.....	<i>Apr. 28, 1911.</i>				
Peas.....	150	.78	.089	.....	Oatmeal.....	15	.38	.070	.....
Beets.....	100	.19	.061	.....	Egg.....	108	2.22	.256	.....
Mashed potato.....	160	.48	.092	.....	Butter.....	50	.06	.011	.....
Rice pudding.....	250	1.55	.262	.....	Sliced bananas.....	100	.22	.026	.....
Grape juice (c. c.)..	600	.24	.041	.....	Cream.....	250	.98	.199	.....
Carbonated water				.....	Bread.....	150	2.40	.145	.....
(c. c.).....	125			.....	Jelly (quince).....	100	.01	.006	.....
Water (c. c.).....	1,200			.....	Lamb.....	150	5.61	.324	.....
Sugar.....	20			.....	Peas.....	150	.86	.090	.....
Total.....	3,550	14.74	1.601	.....	Corn.....	100	.43	.070	.....
<i>Apr. 25, 1911.</i>					Mashed potato.....	160	.53	.096	.....
Cream of wheat.....	15	.30	.017	.....	Cherries.....	181	.24	.036	.....
Egg.....	108.5	2.24	.257	.....	Cherry juice.....	100	.07	.016	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)..	400	.24	.027	.....
Orange.....	95	.18	.026	.....	Carbonated water				.....
Cream.....	250	.93	.186	.....	(c. c.).....	50			.....
Bread.....	150	2.46	.145	.....	Water (c. c.).....	1,000			.....
Jelly (crab apple).....	100	.01	.006	.....	Sugar.....	20			.....
Beef.....	150	5.33	.329	.....	Total.....	3,080	14.25	1.372	.....
Peas.....	150	.87	.085	.....					.....
Lima beans.....	100	1.28	.112	.....					.....

CHART I.—*Diet*—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 29, 1911.</i>					<i>May 2, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	15	0.30	0.017	.....	Boiled potato.....	160	0.42	0.090	.....
Egg.....	112.5	2.32	.267	.....	Strawberries.....	200	.30	.058	.....
Butter.....	50	.06	.011	.....	Strawberry juice.....	100	.02	.007	.....
Orange.....	119	.23	.032	.....	Grape juice (c. c.).....	400	.16	.027	.....
Cream.....	250	.93	.186	.....	Carbonated water				
Bread.....	150	2.45	.144	.....	(c. c.).....	75	.....	.....	.....
Jelly (quince).....	100	.01	.006	.....	Water (c. c.).....	750	.....	.....	.....
Beef.....	150	5.78	.311	.....	Sugar.....	19	.....	.....	.....
Peas.....	150	.83	.093	.....	Total.....	2,870	14.56	1.348	.....
Boiled potato.....	160	.42	.091	.....	<i>May 3, 1911.</i>				
Rice, steamed.....	100	.32	.025	.....	Oatmeal.....	15	.38	.070	.....
Peas.....	250	.15	.031	.....	Egg.....	103.5	2.13	.245	.....
Pear juice.....	100	.03	.010	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.).....	1,000	.40	.068	.....	Sliced bananas.....	100	.19	.039	.....
Carbonated water					Cream.....	250	.95	.190	.....
(c. c.).....	250	.....	.....	.....	Bread.....	100	1.70	.094	.....
Water (c. c.).....	1,000	.....	.....	.....	Jelly (crab apple).....	100	.01	.006	.....
Sugar.....	21	.....	.....	.....	Fowl.....	150	5.43	.324	.....
Total.....	3,980	14.23	1.292	.....	Peas.....	150	.80	.094	.....
<i>Apr. 30, 1911.</i>					String beans.....	150	.44	.043	.....
Cream of wheat.....	15	.30	.017	.....	Sweet potato.....	160	.29	.067	.....
Egg.....	109.5	2.26	.260	.....	Water ice.....	150	.02	.008	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.).....	400	.16	.027	.....
Orange.....	120	.23	.032	.....	Carbonated water				
Cream.....	125	.48	.096	.....	(c. c.).....	100	.....	.....	.....
Bread.....	150	2.43	.143	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (quince).....	100	.01	.006	.....	Sugar.....	19	.....	.....	.....
Fowl.....	150	5.58	.318	.....	Total.....	3,000	12.56	1.218	.....
Peas.....	150	.78	.081	.....	<i>May 4, 1911.</i>				
Celery.....	100	.12	.027	.....	Cream of wheat.....	15	.30	.017	.....
Boiled potato.....	160	.53	.092	.....	Egg.....	101	2.08	.239	.....
Ice cream.....	250	.93	.175	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.).....	600	.24	.041	.....	Orange.....	169	.32	.046	.....
Carbonated water					Cream.....	250	.95	.181	.....
(c. c.).....	100	.....	.....	.....	Bread.....	100	1.48	.091	.....
Water (c. c.).....	1,200	.....	.....	.....	Jelly (currant).....	100	.04	.007	.....
Sugar.....	33	.....	.....	.....	Veal.....	150	5.58	.303	.....
Total.....	3,410	13.95	1.299	.....	Peas.....	150	.78	.093	.....
<i>May 1, 1911.</i>					String beans.....	150	.47	.043	.....
Oatmeal.....	15	.38	.070	.....	Boiled potato.....	160	.43	.088	.....
Egg.....	106	2.18	.251	.....	Peaches.....	200	.22	.035	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.).....	600	.24	.041	.....
Orange.....	133	.27	.037	.....	Carbonated water				
Cream.....	250	.93	.194	.....	(c. c.).....	100	.....	.....	.....
Bread.....	150	2.30	.143	.....	Water (c. c.).....	1,200	.....	.....	.....
Jelly (currant).....	100	.04	.007	.....	Sugar.....	20	.....	.....	.....
Lamb.....	150	5.40	.335	.....	Total.....	3,520	12.95	1.255	.....
Peas.....	150	.80	.088	.....	<i>May 5, 1911.</i>				
Beets.....	100	.23	.052	.....	Oatmeal.....	15	.38	.070	.....
Mashed potato.....	160	.50	.090	.....	Egg.....	99	2.04	.235	.....
Rice pudding.....	250	1.93	.275	.....	Butter.....	50	.06	.011	.....
Grape juice (c. c.).....	400	.16	.027	.....	Sliced bananas.....	100	.20	.028	.....
Carbonated water					Cream.....	250	1.00	.190	.....
(c. c.).....	75	.....	.....	.....	Bread.....	100	1.76	.094	.....
Water (c. c.).....	1,000	.....	.....	.....	Jelly (currant).....	100	.04	.007	.....
Sugar.....	19	.....	.....	.....	Lamb.....	150	5.43	.338	.....
Total.....	3,110	15.23	1.585	.....	Peas.....	150	.81	.092	.....
<i>May 2, 1911.</i>					String beans.....	150	.42	.045	.....
Cream of wheat.....	15	.30	.017	.....	Potato.....	160	.53	.092	.....
Egg.....	109	2.25	.258	.....	Peaches.....	200	.22	.035	.....
Butter.....	50	.06	.011	.....	Peach juice.....	100	.06	.014	.....
Orange.....	96	.18	.026	.....	Grape juice (c. c.).....	600	.24	.041	.....
Cream.....	250	1.08	.201	.....	Carbonated water				
Bread.....	150	2.43	.145	.....	(c. c.).....	150	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Water (c. c.).....	1,500	.....	.....	.....
Beef.....	150	5.52	.315	.....	Sugar.....	20	.....	.....	.....
Peas.....	150	.81	.090	.....	Total.....	3,890	13.19	1.292	.....
Lima beans.....	100	.99	.088	.....				

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 6, 1911.</i>					<i>May 9, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	15	0.30	0.017	.....	Strawberries.....	150	0.27	0.044	.....
Egg.....	103	2.12	.244	.....	Strawberry juice....	100	.02	.007	.....
Butter.....	50	.06	.011	.....	Grape juice (c. c.)...	800	.32	.054	.....
Orange.....	137	.26	.037	.....	Carbonated water				
Cream.....	250	1.05	.201	.....	(c. c.).....	100	.....	.....	.....
Bread.....	100	1.66	.090	.....	Water (c. c.).....	1,000	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Sugar.....	21	.....	.....	.....
Beef.....	150	5.73	.324	.....				
Peas.....	150	.74	.088	.....	Total.....	3,500	13.95	1.282	.....
String beans.....	150	.42	.050	.....				
Boiled potato.....	160	.62	.108	.....	<i>May 10, 1911.</i>				
Peas.....	200	.12	.025	.....	Oatmeal.....	15	.38	.070	.....
Pear juice.....	100	.03	.010	.....	Egg.....	114.5	2.36	.271	.....
Grape juice (c. c.)...	700	.28	.048	.....	Butter.....	50	.06	.011	.....
Carbonated water					Sliced bananas.....	100	.18	.026	.....
(c. c.).....	150	.....	.....	.....	Cream.....	250	.98	.194	.....
Water (c. c.).....	1,100	.....	.....	.....	Bread.....	100	1.60	.098	.....
Sugar.....	20	.....	.....	.....	Jelly (currant).....	100	.04	.007	.....
Total.....	3,640.	13.43	1.268	.....	Fowl.....	150	5.52	.311	.....
<i>May 7, 1911.</i>					Peas.....	150	.75	.093	.....
Cream of wheat.....	15	.30	.017	.....	String beans.....	150	.42	.048	.....
Egg.....	104	2.14	.246	.....	Sweet potato.....	160	.53	.088	.....
Butter.....	50	.06	.011	.....	Water ice.....	200	.02	.011	.....
Orange.....	105	.20	.028	.....	Grape juice (c. c.)...	400	.16	.027	.....
Cream.....	125	.50	.100	.....	Carbonated water				
Bread.....	100	1.67	.088	.....	(c. c.).....	100	.....	.....	.....
Jelly (grape).....	100	.04	.015	.....	Water (c. c.).....	1,200	.....	.....	.....
Fowl.....	150	6.05	.321	.....	Sugar.....	19	.....	.....	.....
Peas.....	150	.78	.090	.....	Total.....	3,260	13.00	1.255	.....
String beans.....	150	.41	.050	.....				
Boiled potato.....	160	.48	.102	.....	<i>May 11, 1911.</i>				
Ice cream.....	200	.68	.134	.....	Cream of wheat.....	15	.30	.017	.....
Grape juice (c. c.)...	400	.16	.027	.....	Egg.....	105.5	2.17	.250	.....
Carbonated water					Butter.....	50	.06	.011	.....
(c. c.).....	75	.....	.....	.....	Orange.....	111	.21	.030	.....
Water (c. c.).....	1,200	.....	.....	.....	Cream.....	250	.93	.190	.....
Sugar.....	21	.....	.....	.....	Bread.....	100	1.59	.096	.....
Total.....	3,110	13.47	1.229	.....	Jelly (crab apple)...	100	.01	.006	.....
<i>May 8, 1911.</i>					Veal.....	150	5.93	.354	.....
Oatmeal.....	15	.38	.070	.....	Peas.....	150	.81	.092	.....
Egg.....	105	2.16	.249	.....	String beans.....	150	.44	.046	.....
Butter.....	50	.06	.011	.....	Boiled potato.....	160	.50	.091	.....
Orange.....	140	.27	.038	.....	Peaches.....	200	.22	.035	.....
Cream.....	250	.93	.184	.....	Peach juice.....	100	.06	.014	.....
Bread.....	100	1.64	.100	.....	Grape juice (c. c.)...	450	.10	.030	.....
Jelly (grape).....	100	.04	.015	.....	Carbonated water				
Lamb.....	150	5.57	.318	.....	(c. c.).....	250	.....	.....	.....
Peas.....	150	.78	.090	.....	Water (c. c.).....	1,200	.....	.....	.....
String beans.....	150	.44	.054	.....	Sugar.....	20	.....	.....	.....
Mashed potato.....	160	.48	.103	.....	Total.....	3,560	13.33	1.262	.....
Rice pudding.....	200	1.30	.215	.....				
Grape juice (c. c.)...	400	.16	.027	.....	<i>May 12, 1911.</i>				
Carbonated water					Oatmeal.....	15	.38	.070	.....
(c. c.).....	100	.....	.....	.....	Egg.....	104	2.14	.247	.....
Water (c. c.).....	1,300	.....	.....	.....	Butter.....	50	.06	.011	.....
Sugar.....	24	.....	.....	.....	Sliced bananas.....	100	.14	.030	.....
Total.....	3,390	14.21	1.474	.....	Cream.....	250	.90	.188	.....
<i>May 9, 1911.</i>					Bread.....	100	1.61	.100	.....
Cream of wheat.....	15	.30	.017	.....	Jelly (quince).....	100	.01	.006	.....
Egg.....	110.5	2.28	.262	.....	Lamb.....	150	5.81	.332	.....
Butter.....	50	.06	.011	.....	Peas.....	150	.84	.096	.....
Orange.....	89	.17	.024	.....	String beans.....	150	.41	.043	.....
Cream.....	250	.93	.188	.....	Mashed potato.....	160	.51	.113	.....
Bread.....	100	1.62	.100	.....	Peaches.....	200	.22	.035	.....
Jelly (currant).....	100	.04	.007	.....	Peach juice.....	100	.06	.014	.....
Beef.....	150	5.93	.315	.....	Grape juice (c. c.)...	800	.32	.054	.....
Peas.....	150	.76	.093	.....	Carbonated water				
String beans.....	150	.75	.047	.....	(c. c.).....	250	.....	.....	.....
Boiled potato.....	160	.50	.113	.....	Water (c. c.).....	1,500	.....	.....	.....
					Sugar.....	20	.....	.....	.....
					Total.....	4,200	13.41	1.339	.....

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 13, 1911.</i>					<i>May 16, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	15	0.30	0.017	.....	Peas.....	150	0.87	0.092	.....
Egg.....	103	2.12	.244	.....	String beans.....	150	.47	.047	.....
Butter.....	50	.06	.011	.....	Boiled potato.....	160	.38	.113	.....
Orange.....	170	.32	.046	.....	Strawberries.....	150	.33	.044	.....
Cream.....	250	.83	.173	.....	Strawberry juice.....	100	.02	.007	.....
Bread.....	100	1.60	.097	.....	Carbonated water				
Jelly (grape).....	100	.04	.015	.....	(c. c.).....	100			.....
Beef.....	150	5.87	.311	.....	Water (c. c.).....	1,500			.....
Peas.....	150	.86	.097	.....	Sugar.....	18			.....
String beans.....	150	.47	.048	.....				
Boiled potato.....	160	.48	.103	.....	Total.....	3,200	13.28	1.234	.....
Pears.....	200	.12	.025	.....				
Pear juice.....	100	.03	.010	.....	<i>May 17, 1911.</i>				
Grape juice (c. c.).....	600	.24	.041	.....				
Carbonated water					Oatmeal.....	15	.38	.070	.....
(c. c.).....	200			.....	Egg.....	113.5	2.34	.269	.....
Water (c. c.).....	1,500			.....	Butter.....	50	.06	.011	.....
Sugar.....	19			.....	Sliced bananas.....	100	.21	.032	.....
Total.....	4,020	13.34	1.238	.....	Cream (125 c. c. sour)	125	.48	.096	.....
					Bread.....	100	1.58	.097	.....
<i>May 14, 1911.</i>					Jelly (quince).....	100	.01	.006	.....
					Fowl.....	150	5.30	.302	.....
Cream of wheat.....	15	.30	.017	.....	Peas.....	100	.56	.063	.....
Egg.....	111	2.29	.263	.....	String beans.....	100	.30	.064	.....
Butter.....	50	.06	.011	.....	Milk (c. c.).....	200	1.12	.213	.....
Orange.....	128	.25	.035	.....	Sweet potato.....	160	.40	.076	.....
Cream.....	125	.48	.094	.....	Water ice.....	200	.02	.011	.....
Bread.....	100	1.63	.100	.....	Carbonated water				
Jelly (grape).....	100	.04	.015	.....	(c. c.).....	100			.....
Fowl.....	150	5.66	.311	.....	Water (c. c.).....	1,200			.....
Peas.....	150	.84	.093	.....	Sugar.....	25			.....
String beans.....	150	.44	.051	.....				
Boiled potato.....	160	.51	.105	.....	Total.....	2,840	12.76	1.310	.....
Ice cream.....	200	.74	.150	.....				
Grape juice (c. c.).....	600	.24	.041	.....	<i>May 18, 1911.</i>				
Carbonated water									
(c. c.).....	250			.....	Cream of wheat.....	15	.30	.017	.....
Water (c. c.).....	1,200			.....	Egg.....	98	2.02	.232	.....
Sugar.....	21			.....	Butter.....	50	.06	.011	.....
Total.....	3,510	13.48	1.286	.....	Orange.....	150	.29	.041	.....
					Cream (50 c. c. sour)	200	.76	.159	.....
<i>May 15, 1911.</i>					Bread.....	100	1.62	.100	.....
					Jelly (quince).....	100	.01	.006	.....
Oatmeal.....	15	.38	.070	.....	Veal.....	150	5.93	.351	.....
Egg.....	108.5	2.24	.257	.....	Peas.....	100	.55	.062	.....
Butter.....	50	.06	.011	.....	String beans.....	100	.29	.035	.....
Orange.....	117	.22	.032	.....	Milk (c. c.).....	200	1.14	.217	.....
Cream (100 c. c. sour)	150	.63	.117	.....	Boiled potato.....	160	.35	.082	.....
Bread.....	100	1.56	.096	.....	Peaches.....	200	.22	.035	.....
Jelly (currant).....	100	.04	.007	.....	Peach juice.....	100	.06	.014	.....
Lamb.....	150	5.76	.321	.....	Water (c. c.).....	1,500			.....
Peas.....	150	.78	.089	.....	Sugar.....	21			.....
String beans.....	100	.28	.038	.....				
Mashed potato.....	160	.50	.094	.....	Total.....	3,240	13.60	1.362	.....
Rice pudding.....	200	1.12	.206	.....				
Grape juice (c. c.).....	600	.24	.041	.....	<i>May 19, 1911.</i>				
Carbonated water									
(c. c.).....	125			.....	Oatmeal.....	15	.38	.070	.....
Water (c. c.).....	1,500			.....	Egg.....	104	2.14	.247	.....
Sugar.....	22			.....	Butter.....	50	.06	.011	.....
Total.....	3,650	13.81	1.379	.....	Sliced bananas.....	100	.18	.025	.....
					Cream.....	250	.90	.199	.....
<i>May 16, 1911.</i>					Bread.....	100	1.63	.103	.....
					Jelly (currant).....	100	.04	.007	.....
Cream of wheat.....	15	.30	.017	.....	Lamb.....	150	4.95	.306	.....
Egg.....	112	2.31	.265	.....	Peas.....	100	.55	.059	.....
Butter.....	50	.06	.011	.....	String beans.....	100	.28	.041	.....
Orange.....	96	.19	.026	.....	Milk (c. c.).....	200	1.06	.210	.....
Cream.....	250	.95	.192	.....	Mashed potato.....	160	.43	.088	.....
Bread.....	100	1.57	.098	.....	Peaches.....	200	.22	.335	.....
Jelly (currant).....	100	.04	.007	.....	Peach juice.....	100	.06	.014	.....
Beef.....	150	5.79	.315	.....	Water (c. c.).....	2,000			.....
					Sugar.....	22			.....
					Total.....	3,750	12.88	1.415	.....

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 20, 1911.</i>					<i>May 26, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	15	0.30	0.017	.....	Strawberries.....	150	0.27	0.044	.....
Egg.....	113	2.33	.268	.....	Strawberry juice....	100	.02	.007	.....
Butter.....	50	.06	.011	.....	Water (c. c.).....	1,500	.....	.....	.....
Orange.....	122	.23	.033	.....	Sugar.....	22	.....	.....	.....
Cream.....	250	1.03	.203	.....	Total.....	3,230	14.15	1.367	.....
Bread.....	100	1.55	.103	.....	<i>May 24, 1911.</i>				
Jelly (currant).....	100	.04	.007	.....	Oatmeal.....	15	.38	.070	.....
Beef.....	150	5.52	.335	.....	Egg.....	110	2.27	.261	.....
Peas.....	100	.57	.063	.....	Butter.....	50	.06	.011	.....
String beans.....	100	.28	.045	.....	Sliced bananas.....	100	.18	.028	.....
Milk (c. c.).....	200	1.04	.215	.....	Cream.....	250	.98	.194	.....
Boiled potato.....	160	.48	.113	.....	Bread.....	100	1.66	.096	.....
Pears.....	200	.12	.025	.....	Jelly (grape).....	100	.04	.015	.....
Pear juice.....	100	.03	.010	.....	Fowl.....	150	5.52	.302	.....
Water (c. c.).....	1,500	.....	.....	.....	Peas.....	100	.55	.063	.....
Sugar.....	19	.....	.....	.....	String beans.....	100	.36	.038	.....
Total.....	3,280	13.58	1.448	.....	Milk (c. c.).....	200	1.06	.211	.....
<i>May 21, 1911.</i>					Sweet potato.....	160	.38	.081	.....
Cream of wheat....	15	.30	.017	.....	Water ice.....	200	.02	.011	.....
Egg.....	111	2.29	.263	.....	Water (c. c.).....	1,100	.....	.....	.....
Butter.....	50	.06	.011	.....	Sugar.....	19	.....	.....	.....
Orange.....	88	.17	.024	.....	Total.....	2,750	13.40	1.381	.....
Cream.....	925	.49	.095	.....	<i>May 25, 1911.</i>				
Bread.....	100	1.69	.103	.....	Cream of wheat....	15	.30	.017	.....
Jelly (currant).....	100	.04	.007	.....	Egg.....	102.5	2.11	.243	.....
Fowl.....	150	5.79	.315	.....	Butter.....	50	.06	.011	.....
Peas.....	100	.57	.066	.....	Orange.....	104	.20	.028	.....
String beans.....	100	.29	.037	.....	Cream.....	250	.98	.194	.....
Milk (c. c.).....	200	1.00	.199	.....	Bread.....	100	1.59	.095	.....
Boiled potato.....	160	.59	.102	.....	Jelly (grape).....	100	.04	.015	.....
Ice cream.....	200	.72	.145	.....	Veal.....	150	6.09	.351	.....
Water (c. c.).....	1,500	.....	.....	.....	Peas.....	100	.57	.067	.....
Sugar.....	27	.....	.....	.....	String beans.....	100	.30	.036	.....
Total.....	3,030	14.00	1.384	.....	Milk (c. c.).....	200	1.02	.194	.....
<i>May 22, 1911.</i>					Boiled potato.....	160	.61	.085	.....
Oatmeal.....	15	.38	.070	.....	Peaches.....	200	.22	.035	.....
Egg.....	85	1.75	.201	.....	Peach juice.....	100	.06	.014	.....
Butter.....	50	.06	.011	.....	Water (c. c.).....	1,200	.....	.....	.....
Orange.....	93	.18	.025	.....	Sugar.....	20	.....	.....	.....
Cream.....	250	.95	.192	.....	Total.....	2,950	14.15	1.385	.....
Bread.....	100	1.62	.100	.....	<i>May 26, 1911.</i>				
Jelly (quince).....	100	.01	.006	.....	Cream of wheat....	15	.30	.017	.....
Lamb.....	150	4.89	.311	.....	Egg.....	112	2.31	.266	.....
Peas.....	100	.60	.064	.....	Butter.....	50	.06	.011	.....
String beans.....	100	.30	.042	.....	Sliced bananas.....	100	.18	.025	.....
Milk (c. c.).....	200	1.10	.215	.....	Cream.....	250	.95	.190	.....
Mashed potato.....	160	.54	.090	.....	Bread.....	100	1.62	.093	.....
Rice pudding.....	200	1.24	.201	.....	Jelly (grape).....	100	.04	.015	.....
Water (c. c.).....	1,800	.....	.....	.....	Lamb.....	150	5.43	.324	.....
Sugar.....	23	.....	.....	.....	Peas.....	100	.59	.065	.....
Total.....	3,430	13.62	1.528	.....	String beans.....	100	.30	.035	.....
<i>May 23, 1911.</i>					Milk (c. c.).....	200	1.08	.215	.....
Cream of wheat....	15	.30	.017	.....	Mashed potato.....	160	.50	.053	.....
Egg.....	108.5	2.24	.257	.....	Peaches.....	200	.22	.035	.....
Butter.....	50	.06	.011	.....	Peach juice.....	100	.06	.014	.....
Orange.....	120	.23	.032	.....	Water (c. c.).....	1,200	.....	.....	.....
Cream.....	250	.93	.194	.....	Sugar.....	17	.....	.....	.....
Bread.....	100	1.57	.093	.....	Total.....	2,950	13.64	1.358	.....
Jelly (quince).....	100	.01	.006	.....	<i>May 27, 1911.</i>				
Beef.....	150	6.09	.318	.....	Oatmeal.....	15	.38	.070	.....
Peas.....	100	.61	.060	.....	Egg.....	99	2.04	.235	.....
String beans.....	100	.30	.035	.....				
Milk (c. c.).....	200	1.06	.213	.....				
Boiled potato.....	160	.46	.080	.....				

CHART I.—Diet—Continued.

SUBJECT No. 4—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 27, 1911—Con.</i>					<i>May 29, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Butter.....	50	0.06	0.011	.....	Oatmeal.....	15	0.38	0.670	.....
Orange.....	69	.13	.019	.....	Egg.....	85	1.75	.261	.....
Cream.....	250	.93	.186	.....	Butter.....	50	.06	.011	.....
Bread.....	100	1.58	.099	.....	Orange.....	166	.20	.029	.....
Jelly (grape).....	100	.04	.015	.....	Cream.....	250	.95	.188	.....
Beef.....	150	6.23	.318	.....	Bread.....	100	1.56	.694	.....
Peas.....	100	.60	.064	.....	Jelly (currant).....	100	.04	.007	.....
String beans.....	100	.27	.040	.....	Lamb.....	150	5.67	.332	.....
Milk (c. c.).....	200	1.08	.204	.....	Peas.....	100	.54	.067	.....
Mashed potato.....	160	.59	.053	.....	String beans.....	100	.33	.034	.....
Pears.....	200	.12	.025	.....	Milk (c. c.).....	200	1.04	.208	.....
Pear juice.....	100	.03	.010	.....	Mashed potato.....	160	.50	.056	.....
Carbonated water (c. c.).....	100	.....	.....	.....	Rice pudding.....	200	1.56	.210	.....
Water (c. c.).....	1,500	.....	.....	.....	Water (c. c.).....	1,200	.....	.....	.....
Sugar.....	19	.....	.....	.....	Sugar.....	17	.....	.....	.....
Total.....	3,310	14.08	1.349	.....	Total.....	2,830	14.58	1.507	.....
<i>May 28, 1911.</i>					<i>May 30, 1911.</i>				
Cream of wheat....	15	.30	.017	.....	Cream of wheat....	15	.30	.017	.....
Egg.....	120	2.47	.284	.....	Egg.....	101	2.08	.239	.....
Butter.....	50	.06	.011	.....	Butter.....	50	.06	.011	.....
Orange.....	110	.21	.030	.....	Orange.....	111	.21	.030	.....
Cream.....	125	.45	.099	.....	Cream.....	250	.95	.190	.....
Bread.....	100	1.60	.104	.....	Bread.....	100	1.63	.095	.....
Jelly (currant).....	100	.04	.007	.....	Jelly (currant).....	100	.04	.007	.....
Fowl.....	150	5.57	.306	.....	Beef.....	150	5.84	.318	.....
Peas.....	100	.54	.062	.....	Peas.....	100	.52	.065	.....
String beans.....	100	.30	.034	.....	String beans.....	100	.30	.032	.....
Milk (c. c.).....	200	1.06	.202	.....	Milk (c. c.).....	200	.98	.204	.....
Boiled potato.....	160	.64	.061	.....	Boiled potato.....	160	.46	.059	.....
Ice cream.....	200	.70	.133	.....	Strawberries.....	200	.36	.058	.....
Water (c. c.).....	1,100	.....	.....	.....	Strawberry juice.....	100	.02	.007	.....
Sugar.....	12	.....	.....	.....	Water (c. c.).....	1,300	.....	.....	.....
Total.....	2,640	13.94	1.350	.....	Sugar.....	20	.....	.....	.....
					Total.....	3,060	13.75	1.332	.....

CHART I.—Diet—Continued.

SUBJECT No. 5 (C. P. K.).

Food.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
Cream of wheat.....	20		20		20		20
Oatmeal.....		20		20		20	
Egg (number).....	1	1	1	1	1	1	1
Butter.....	60	60	60	60	60	60	60
Orange (number).....	1	1	1		1	1	
Sliced bananas.....				70			70
Cream.....	90	240	240	90	240	240	240
Bread.....	170	170	170	170	170	170	170
Jelly.....	70	70	70	70	70	70	70
Beef.....			160				160
Fowl.....	160			160			
Veal.....					160		
Lamb.....		160				160	
Peas.....	150	150	150	150	150	150	150
Beets.....		140					
Lima beans.....			160				
String beans.....					140		
Corn.....						140	
Celery.....	140						
Hominy.....				160			
Mashed or boiled potato.....	180	180		180	180	180	180
Sweet potato.....			160				
Rice, steamed.....							180
Rice pudding.....		200					
Ice cream.....	250						
Water ice.....				200			
Peaches.....					200		
Peach juice.....					80		
Pears.....							200
Pear juice.....							80
Cherries.....						200	
Cherry juice.....						80	
Strawberries.....			200				
Strawberry juice.....			40				
Grape juice (c. c.).....	300	300	300	300	300	300	300
Carbonated water (c. c.).....							
Water (c. c.).....							
Sugar.....							

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 1, 1911.</i>					<i>Mar. 2, 1911—Con.</i>				
Oatmeal.....	20	0.50	0.093		Boiled potato.....	180	0.65	0.077	
Egg.....	50	1.03	.118		Peaches.....	200	.22	.035	
Butter.....	60	.07	.013		Peach juice.....	80	.05	.011	
Sliced bananas.....	70	.13	.032		Grape juice (c. c.).....	300	.12	.020	
Cream.....	90	.34	.070		Water (c. c.).....	600			
Bread.....	170	2.72	.142		Sugar.....	16			
Jelly (grape).....	70	.03	.011						
Fowl.....	160	4.56	.363		Total.....	2,620	13.53	1.217	
Peas.....	150	.84	.085						
Hominy.....	160	.62	.020		<i>Mar. 3, 1911.</i>				
Boiled potato.....	180	.63	.113		Oatmeal.....	20	.50	.093	
Water ice.....	200	.02	.011		Egg.....	56	1.15	.133	
Grape juice (c. c.).....	300	.12	.020		Butter.....	60	.07	.013	
Water (c. c.).....	600				Sliced bananas.....	70	.13	.018	
Sugar.....	18				Cream.....	240	.98	.086	
Total.....	2,300	11.61	1.091		Bread.....	170	2.77	.166	
<i>Mar. 2, 1911.</i>					Jelly (grape).....	70	.03	.011	
Cream of wheat.....	20	.40	.022		Lamb.....	160	5.38	.378	
Egg.....	48	.99	.114		Peas.....	150	.83	.098	
Butter.....	60	.07	.013		Corn.....	140	.52	.102	
Orange.....	15	.35	.050		Mashed potato.....	180	.63	.123	
Cream.....	240	.84	.193		Cherries.....	178	.23	.035	
Bread.....	170	2.58	.153		Cherry juice.....	80	.06	.013	
Jelly (grape).....	70	.03	.011		Grape juice (c. c.).....	300	.12	.020	
Veal.....	160	6.02	.384		Water (c. c.).....	600			
Peas.....	150	.87	.092		Sugar.....	45			
String beans.....	140	.34	.042		Total.....	2,520	13.40	1.289	

CHART I.—Diet—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Mar. 4, 1911.</i>					<i>Mar. 7, 1911—Con.</i>				
<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	
Cream of wheat....	20	0.40	0.022	.....	Water (c. c.).....	650	.....	.....	.....
Egg.....	52.5	1.08	.124	.....	Sugar.....	19	.....	.....	.....
Butter.....	60	.07	.013	.....	Total.....	2,670	14.92	1.343	.....
Orange.....	191	.36	.052	.....	<i>Mar. 8, 1911.</i>				
Cream.....	240	.91	.185	.....	Oatmeal.....	20	.50	.093	.....
Bread.....	170	2.67	.195	.....	Egg.....	50.6	1.04	.120	.....
Jelly (grape).....	70	.03	.011	.....	Butter.....	60	.07	.013	.....
Beef.....	160	5.89	.363	.....	Sliced bananas.....	70	.14	.020	.....
Peas.....	150	.89	.118	.....	Cream.....	90	.34	.067	.....
Boiled potato.....	180	.67	.146	.....	Bread.....	170	2.86	.175	.....
Rice, steamed.....	160	.53	.043	.....	Jelly (currant and raspberry).....	70	.03	.005	.....
Pears.....	200	.12	.025	.....	Fowl.....	160	6.27	.357	.....
Pear juice.....	80	.02	.008	.....	Peas.....	150	.87	.093	.....
Grape juice (c. c.).....	300	.12	.020	.....	Hominy.....	160	.59	.022	.....
Water (c. c.).....	600	.....	.....	.....	Sweet potato.....	160	.35	.067	.....
Sugar.....	17	.....	.....	.....	Water ice.....	200	.02	.011	.....
Total.....	2,650	13.76	1.325	.....	Grape juice (c. c.).....	300	.12	.020	.....
<i>Mar. 5, 1911.</i>					Water (c. c.).....	650	.....	.....	.....
Cream of wheat....	20	.40	.022	.....	Sugar.....	29	.....	.....	.....
Egg.....	62	1.28	.147	.....	Total.....	2,340	13.20	1.063	.....
Butter.....	60	.07	.013	.....	<i>Mar. 9, 1911.</i>				
Orange.....	206	.39	.056	.....	Cream of wheat....	20	.40	.022	.....
Cream.....	90	.34	.066	.....	Egg.....	58.5	1.21	.139	.....
Bread.....	170	2.74	.168	.....	Butter.....	60	.07	.013	.....
Jelly (grape).....	70	.03	.011	.....	Orange.....	178	.34	.048	.....
Fowl.....	160	6.21	.375	.....	Cream.....	240	.94	.178	.....
Peas.....	150	.86	.096	.....	Bread.....	170	2.84	.166	.....
Celery.....	140	.24	.039	.....	Jelly (grape).....	70	.03	.011	.....
Boiled potato.....	180	.70	.115	.....	Veal.....	160	5.71	.387	.....
Ice cream.....	250	.93	.181	.....	Peas.....	150	.78	.084	.....
Grape juice (c. c.).....	300	.12	.020	.....	String beans.....	140	.38	.033	.....
Water (c. c.).....	600	.....	.....	.....	Boiled potato.....	180	.68	.115	.....
Sugar.....	22	.....	.....	.....	Peaches.....	200	.22	.035	.....
Total.....	2,480	14.31	1.309	.....	Peach juice.....	80	.05	.011	.....
<i>Mar. 6, 1911.</i>					Grape juice (c. c.).....	300	.12	.020	.....
Oatmeal.....	20	.50	.093	.....	Water (c. c.).....	600	.....	.....	.....
Egg.....	62	1.28	.147	.....	Sugar.....	25	.....	.....	.....
Butter.....	60	.07	.013	.....	Total.....	2,630	13.77	1.262	.....
Orange.....	120	.23	.032	.....	<i>Mar. 10, 1911.</i>				
Cream.....	240	.89	.178	.....	Oatmeal.....	20	.50	.093	.....
Bread.....	170	2.74	.165	.....	Egg.....	56.4	1.16	.134	.....
Jelly (grape).....	70	.03	.011	.....	Butter.....	60	.07	.013	.....
Lamb.....	160	5.46	.357	.....	Sliced bananas.....	70	.15	.018	.....
Peas.....	150	.84	.094	.....	Cream.....	240	.89	.178	.....
Beets.....	140	.36	.108	.....	Bread.....	170	2.87	.168	.....
Mashed potato.....	180	.61	.110	.....	Jelly (grape).....	70	.03	.011	.....
Rice pudding.....	200	1.36	.239	.....	Lamb.....	160	5.33	.352	.....
Grape juice (c. c.).....	300	.12	.020	.....	Peas.....	150	.80	.080	.....
Water (c. c.).....	650	.....	.....	.....	Corn.....	140	.59	.095	.....
Sugar.....	21	.....	.....	.....	Boiled potato.....	180	.74	.102	.....
Total.....	2,540	14.49	1.567	.....	Cherries.....	180	.24	.036	.....
<i>Mar. 7, 1911.</i>					Cherry juice.....	80	.06	.013	.....
Cream of wheat....	20	.40	.022	.....	Grape juice (c. c.).....	300	.12	.020	.....
Egg.....	52.9	1.09	.125	.....	Water (c. c.).....	650	.....	.....	.....
Butter.....	60	.07	.013	.....	Sugar.....	22	.....	.....	.....
Orange.....	156	.30	.042	.....	Total.....	2,550	13.55	1.313	.....
Cream.....	240	.94	.182	.....	<i>Mar. 11, 1911.</i>				
Bread.....	170	2.82	.163	.....	Cream of wheat....	20	.40	.022	.....
Jelly (currant and raspberry).....	70	.03	.005	.....	Egg.....	55.8	1.15	.132	.....
Beef.....	160	5.57	.343	.....	Butter.....	60	.07	.013	.....
Peas.....	150	.84	.089	.....	Orange.....	171	.32	.046	.....
Lima beans.....	160	1.78	.158	.....	Cream.....	240	.94	.182	.....
Boiled potato.....	180	.58	.118	.....	Bread.....	170	2.84	.163	.....
Strawberries.....	200	.36	.058	.....				
Strawberry juice.....	80	.02	.005	.....				
Grape juice (c. c.).....	300	.12	.020	.....				

CHART I.—*Diet*—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Mar. 11, 1911—Con.</i>					<i>Mar. 15, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Jelly (grape).....	70	0.03	0.011	.....	Oatmeal.....	20	0.50	0.093	.....
Beef.....	160	5.98	.342	.....	Egg.....	54.8	1.13	.130	.....
Peas.....	150	.81	.080	.....	Butter.....	60	.07	.013	.....
Mashed potato.....	180	.68	.116	.....	Sliced bananas.....	70	.13	.026	.....
Rice, steamed.....	160	.56	.032	.....	Cream.....	90	.33	.070	.....
Pears.....	200	.12	.025	.....	Bread.....	170	2.94	.162	.....
Pear juice.....	80	.06	.008	.....	Jelly (currant).....	70	.03	.005	.....
Grape juice (c. c.).....	300	.12	.020	.....	Fowl.....	160	5.68	.343	.....
Water (c. c.).....	650	.....	.....	.....	Peas.....	150	1.14	.119	0.0171
Sugar.....	36	.....	.....	.....	Hominy.....	160	.53	.018	.....
Total.....	2,700	14.08	1.192	.....	Sweet potato.....	160	.40	.059	.....
<i>Mar. 12, 1911.</i>					Water ice.....	200	.02	.011	.....
Cream of wheat.....	20	.40	.022	.....	Grape juice (c. c.).....	300	.12	.020	.....
Egg.....	44.4	.91	.105	.....	Water (c. c.).....	600	.....	.....	.....
Butter.....	60	.07	.013	.....	Sugar.....	33	.....	.....	.....
Orange.....	199	.38	.054	.....	Total.....	2,300	13.02	1.069	.0171
Cream.....	90	.32	.065	.....	<i>Mar. 16, 1911.</i>				
Bread.....	170	2.86	.169	.....	Cream of wheat.....	20	.40	.022	.....
Jelly (grape).....	70	.03	.011	.....	Egg.....	57.8	1.19	.137	.....
Fowl.....	160	5.49	.331	.....	Butter.....	60	.07	.013	.....
Peas.....	150	.81	.080	.....	Orange.....	95	.18	.026	.....
Celery.....	140	.20	.048	.....	Cream.....	240	.91	.186	.....
Boiled potato.....	180	.70	.120	.....	Bread.....	170	2.84	.157	.....
Ice cream.....	250	.93	.164	.....	Jelly (currant and grape).....	70	.03	.007	.....
Grape juice (c. c.).....	300	.12	.020	.....	Veal.....	160	5.73	.363	.....
Water (c. c.).....	650	.....	.....	.....	Peas.....	150	1.11	.119	.0180
Sugar.....	22	.....	.....	.....	String beans.....	140	.38	.039	.....
Total.....	2,510	13.22	1.202	.....	Boiled potato.....	180	.74	.109	.....
<i>Mar. 13, 1911.</i>					Peaches.....	200	.22	.035	.....
Oatmeal.....	20	.50	.093	.....	Peach juice.....	80	.05	.011	.....
Egg.....	57.5	1.18	.136	.....	Grape juice (c. c.).....	300	.12	.020	.....
Butter.....	60	.07	.013	.....	Water (c. c.).....	600	.....	.....	.....
Orange.....	191	.36	.052	.....	Sugar.....	20	.....	.....	.....
Cream.....	240	.89	.178	.....	Total.....	2,540	13.97	1.244	.0180
Bread.....	170	2.82	.165	.....	<i>Mar. 17, 1911.</i>				
Jelly (grape).....	70	.03	.011	.....	Oatmeal.....	20	.50	.093	.....
Lamb.....	160	5.33	.331	.....	Egg.....	54.8	1.13	.130	.....
Peas.....	150	.81	.083	.....	Butter.....	60	.07	.013	.....
Beets.....	140	.38	.121	.....	Sliced bananas.....	70	.16	.015	.....
Mashed potato.....	180	.65	.112	.....	Cream.....	240	.91	.180	.....
Rice pudding.....	200	1.44	.280	.....	Bread.....	170	2.82	.156	.....
Grape juice (c. c.).....	300	.12	.020	.....	Jelly (crab apple).....	70	.03	.004	.....
Water (c. c.).....	600	.....	.....	.....	Lamb.....	160	5.25	.336	.....
Sugar.....	55	.....	.....	.....	Peas.....	150	1.11	.130	.0191
Total.....	2,600	14.58	1.595	.....	Corn.....	140	.46	.087	.....
<i>Mar. 14, 1911.</i>					Mashed potato.....	180	.65	.129	.....
Cream of wheat.....	20	.40	.022	.....	Cherries.....	183	.24	.036	.....
Egg.....	64	1.32	.152	.....	Cherry juice.....	80	.06	.013	.....
Butter.....	60	.07	.013	.....	Grape juice (c. c.).....	300	.12	.020	.....
Orange.....	190	.36	.051	.....	Water (c. c.).....	600	.....	.....	.....
Cream.....	240	.91	.180	.....	Sugar.....	45	.....	.....	.....
Bread.....	170	2.82	.157	.....	Total.....	2,520	13.51	1.342	.091
Jelly (currant).....	70	.03	.005	.....	<i>Mar. 18, 1911.</i>				
Beef.....	160	5.41	.327	.....	Cream of wheat.....	20	.40	.022	.....
Peas.....	150	.81	.084	.....	Egg.....	55.5	1.14	.132	.....
Lima beans.....	160	1.98	.163	.....	Butter.....	60	.07	.013	.....
Boiled potato.....	180	.61	.107	.....	Orange.....	181	.34	.049	.....
Strawberries.....	200	.28	.058	.....	Cream.....	240	.89	.180	.....
Strawberry juice.....	80	.02	.005	.....	Bread.....	170	2.72	.154	.....
Water (c. c.).....	850	.....	.....	.....	Jelly (crab apple).....	70	.03	.004	.....
Sugar.....	3	.....	.....	.....	Beef.....	160	5.82	.327	.....
Total.....	2,600	15.02	1.321	.....	Peas.....	150	1.04	.119	.0164
					Boiled potato.....	180	.58	.107	.....

CHART I.—*Diet*—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Mar. 18, 1911—Con.</i>					<i>Mar. 22, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Rice, steamed.....	160	0.43	0.052	.....	Oatmeal.....	20	0.50	0.093	.....
Pears.....	200	.12	.025	.....	Egg.....	54.3	1.12	.129	.....
Pear juice.....	80	.02	.008	.....	Butter.....	60	.07	.013	.....
Grape juice (c. c.)..	300	.12	.020	.....	Sliced bananas.....	70	.14	.015	.....
Water (c. c.).....	600	.....	.....	.....	Cream.....	90	.37	.068	.....
Sugar.....	35	.....	.....	.....	Bread.....	170	2.91	.152	.....
Total.....	2,660	13.72	1.212	0.0164	Jelly (currant and raspberry).....	70	.03	.005	.....
<i>Mar. 19, 1911.</i>					Fowl.....	160	6.18	.314	.....
Cream of wheat.....	20	.40	.022	.....	Peas.....	150	1.11	.128	0.0165
Egg.....	64.5	1.33	.153	.....	Hominy.....	160	.61	.018	.....
Butter.....	60	.07	.013	.....	Sweet potato.....	160	.40	.063	.....
Orange.....	128	.25	.035	.....	Water ice.....	200	.02	.011	.....
Cream.....	90	.34	.068	.....	Grape juice (c. c.)..	300	.12	.020	.....
Bread.....	170	2.82	.153	.....	Carbonated water (c. c.).....	300	.....	.....	.....
Jelly (currant and raspberry).....	70	.03	.005	.....	Water (c. c.).....	350	.....	.....	.....
Fowl.....	160	6.03	.325	.....	Sugar.....	35	.....	.....	.....
Peas.....	150	1.16	.125	.0168	Total.....	2,350	13.58	1.029	.0165
Celery.....	140	.27	.069	.....	<i>Mar. 23, 1911.</i>				
Boiled potato.....	180	.67	.131	.....	Cream of wheat.....	20	.40	.022	.....
Ice cream.....	250	.95	.179	.....	Egg.....	56.6	1.17	.134	.....
Grape juice (c. c.)..	300	.12	.020	.....	Butter.....	60	.07	.013	.....
Water (c. c.).....	600	.....	.....	.....	Orange.....	154	.30	.042	.....
Sugar.....	18	.....	.....	.....	Cream.....	240	.86	.170	.....
Total.....	2,400	14.44	1.298	.0168	Bread.....	170	2.77	.157	.....
<i>Mar. 20, 1911.</i>					Jelly (currant and raspberry).....	70	.03	.005	.....
Oatmeal.....	20	.50	.093	.....	Veal.....	160	6.32	.367	.....
Egg.....	62.6	1.29	.148	.....	Peas.....	150	1.11	.128	.0147
Butter.....	60	.07	.013	.....	String beans.....	140	.36	.037	.....
Orange.....	178	.34	.048	.....	Boiled potato.....	180	.72	.129	.....
Cream.....	240	.94	.182	.....	Peaches.....	200	.22	.035	.....
Bread.....	170	2.87	.153	.....	Peach juice.....	80	.05	.011	.....
Jelly (currant).....	70	.03	.005	.....	Grape juice (c. c.)..	300	.12	.020	.....
Lamb.....	160	5.47	.336	.....	Carbonated water (c. c.).....	300	.....	.....	.....
Peas.....	150	1.14	.125	.0165	Water (c. c.).....	300	.....	.....	.....
Beets.....	140	.59	.089	.....	Sugar.....	25	.....	.....	.....
Boiled potato.....	180	.58	.088	.....	Total.....	2,610	14.50	1.270	.0147
Rice pudding.....	200	1.64	.253	.....	<i>Mar. 24, 1911.</i>				
Grape juice (c. c.)..	300	.12	.020	.....	Oatmeal.....	20	.50	.093	.....
Water (c. c.).....	600	.....	.....	.....	Egg.....	53.4	1.10	.127	.....
Sugar.....	50	.....	.....	.....	Butter.....	60	.07	.013	.....
Total.....	2,580	15.58	1.553	.0165	Sliced bananas.....	70	.12	.017	.....
<i>Mar. 21, 1911.</i>					Cream.....	240	.94	.178	.....
Cream of wheat.....	20	.40	.022	.....	Bread.....	170	2.70	.154	.....
Egg.....	58	1.19	.137	.....	Jelly (currant and raspberry).....	70	.03	.005	.....
Butter.....	60	.07	.013	.....	Lamb.....	160	6.14	.339	.....
Orange.....	186	.35	.050	.....	Peas.....	150	1.14	.123	.0170
Cream.....	240	.98	.191	.....	Corn.....	140	.55	.097	.....
Bread.....	170	2.86	.154	.....	Potato.....	180	.65	.118	.....
Jelly (currant).....	70	.03	.005	.....	Cherries.....	177	.24	.035	.....
Beef.....	160	6.29	.343	.....	Cherry juice.....	80	.06	.013	.....
Peas.....	150	1.14	.123	.0179	Grape juice (c. c.)..	300	.12	.020	.....
Lima beans.....	160	2.03	.161	.....	Carbonated water (c. c.).....	300	.....	.....	.....
Boiled potato.....	180	.63	.126	.....	Water (c. c.).....	300	.....	.....	.....
Strawberries.....	200	.42	.058	.....	Sugar.....	55	.....	.....	.....
Strawberry juice.....	80	.02	.005	.....	Total.....	2,530	14.36	1.332	.0170
Grape juice (c. c.)..	300	.12	.020	.....	<i>Mar. 25, 1911.</i>				
Carbonated water (c. c.).....	200	.....	.....	.....	Cream of wheat.....	20	.40	.022	.....
Water (c. c.).....	400	.....	.....	.....	Egg.....	53.3	1.10	.126	.....
Sugar.....	20	.....	.....	.....		
Total.....	2,650	16.53	1.408	.0179					

CHART I.—Diet—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 25, 1911—Con.</i>					<i>Mar. 28, 1911—Con.</i>				
<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	
Butter.....	60	0.07	0.013		Beef.....	160	6.30	0.339	
Orange.....	¹ 165	.31	.045		Peas.....	150	1.11	.127	0.0173
Cream.....	240	.94	.176		Lima beans.....	160	2.06	.148	
Bread.....	170	2.07	.156		Boiled potato.....	180	.54	.113	
Jelly (grape).....	70	.03	.011		Strawberries.....	200	.28	.058	
Beef.....	140	6.37	.339		Strawberry juice.....	80	.02	.005	
Peas.....	150	1.17	.126	0.0179	Grape juice (c. c.).....	300	.12	.020	
Boiled potato.....	180	.56	.098		Carbonated water				
Rice, steamed.....	100	.54	.055		(c. c.).....	200			
Pears.....	200	.12	.025		Water (c. c.).....	400			
Pear juice.....	80	.02	.008		Sugar.....	24			
Grape juice (c. c.).....	300	.12	.020						
Carbonated water					Total.....	2.610	16.07	1.256	.0173
(c. c.).....	300								
Water (c. c.).....	300				<i>Mar. 29, 1911.</i>				
Sugar.....	45				Oatmeal.....	20	.50	.093	
Total.....	2.650	14.42	1.220	.0179	Egg.....	56.4	1.16	.134	
<i>Mar. 26, 1911.</i>					Butter.....	60	.07	.013	
Cream of wheat.....	20	.40	.022		Sliced bananas.....	70	.16	.014	
Egg.....	52.9	1.09	.125		Cream.....	90	.37	.069	
Butter.....	60	.07	.013		Bread.....	170	2.92	.157	
Orange.....	166	.31	.045		Jelly (quince).....	70	.01	.004	
Cream.....	90	.35	.067		Fowl.....	100	6.11	.343	
Bread.....	170	2.74	.162		Peas.....	150	1.14	.127	.0183
Jelly (currant and					Hominy.....	160	.62	.021	
raspberry).....	70	.03	.005		Sweet potato.....	140	.35	.070	
Fowl.....	160	5.82	.331		Water ice.....	200	.02	.011	
Peas.....	150	1.08	.118	.0183	Grape juice (c. c.).....	300	.12	.020	
Celery.....	140	.29	.055		Carbonated water				
Boiled potato.....	180	.74	.091		(c. c.).....	300			
Ice cream.....	250	.95	.175		Water (c. c.).....	300			
Grape juice (c. c.).....	300	.12	.020		Sugar.....	36			
Carbonated water									
(c. c.).....	300				Total.....	2.300	13.55	1.066	.0185
Water (c. c.).....	300								
Sugar.....	24				<i>Mar. 30, 1911.</i>				
Total.....	2.430	13.99	1.239	.0183	Cream of wheat.....	20	.40	.022	
<i>Mar. 27, 1911.</i>					Egg.....	52.8	1.09	.125	
Oatmeal.....	20	.50	.093		Butter.....	60	.07	.013	
Egg.....	54.5	1.12	.129		Orange.....	161	.30	.043	
Butter.....	60	.07	.013		Cream.....	240	.89	.182	
Orange.....	166	.31	.045		Bread.....	170	2.72	.148	
Cream.....	240	.94	.182		Jelly (raspberry				
Bread.....	170	2.77	.157		and currant).....	70	.03	.005	
Jelly (currant and					Veal.....	160	5.81	.387	
raspberry).....	70	.03	.005		Peas.....	150	1.11	.125	.0155
Lamb.....	140	6.05	.342		String beans.....	140	.38	.038	
Peas.....	150	1.08	.128	.0162	Boiled potato.....	180	.52	.124	
Beets.....	140	.50	.076		Peaches.....	200	.22	.035	
Mashed potato.....	180	.58	.118		Peach juice.....	80	.05	.011	
Rice pudding.....	200	1.23	.208		Grape juice (c. c.).....	300	.12	.020	
Grape juice (c. c.).....	300	.12	.020		Carbonated water				
Carbonated water					(c. c.).....	300			
(c. c.).....	300				Water (c. c.).....	300			
Water (c. c.).....	400				Sugar.....	34			
Sugar.....	39								
Total.....	2.650	15.33	1.516	.0162	Total.....	2,620	13.71	1.278	.0156
<i>Mar. 28, 1911.</i>									
Cream of wheat.....	20	.40	.022		<i>Mar. 31, 1911.</i>				
Egg.....	52.7	1.09	.125		Oatmeal.....	20	.50	.093	
Butter.....	60	.07	.013		Egg.....	54.9	1.13	.130	
Orange.....	145	.28	.039		Butter.....	60	.07	.013	
Cream.....	240	.91	.180		Orange.....	140	.17	.038	
Bread.....	170	2.86	.162		Cream.....	240	.86	.186	
Jelly (raspberry					Bread.....	170	2.65	.159	
and currant).....	70	.03	.005		Jelly (grape).....	70	.03	.011	
					Lamb.....	160	5.78	.336	
					Peas.....	150	1.14	.127	.0176
					Corn.....	140	.50	.092	
					Mashed potato.....	180	.50	.108	
					Cherries.....	180	.24	.036	
					Cherry juice.....	80	.06	.013	

¹ Estimated.

CHART I.—*Diet*—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 31, 1911—Con.</i>					<i>Apr. 4, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Grape juice (c. c.)..	300	0.12	0.020	.....	Cream of wheat....	20	0.40	0.022	.....
Carbonated water	.....	.....	.....	.....	Egg.....	56	1.15	.133	.....
(c. c.).....	300	.....	.....	.....	Butter.....	60	.07	.013	.....
Water (c. c.).....	300	.....	.....	.....	Orange.....	166	.31	.045	.....
Sugar.....	34	.....	.....	.....	Cream.....	240	.94	.180	.....
Total.....	2,580	13.85	1.362	0.0176	Bread.....	170	2.79	.157	.....
<i>Apr. 1, 1911.</i>					Jelly (quince)....	70	.01	.004	.....
Cream of wheat....	20	.40	.022	.....	Beef.....	160	6.51	.343	.....
Egg.....	53.7	1.11	.127	.....	Peas.....	150	1.04	.125	0.0146
Butter.....	60	.07	.013	.....	Lima beans.....	160	2.19	.176	.....
Sliced bananas.....	70	.12	.023	.....	Boiled potato.....	180	.50	.108	.....
Cream.....	240	.91	.176	.....	Strawberries.....	200	.32	.058	.....
Bread.....	170	2.52	.144	.....	Strawberry juice... (c. c.).....	80 900	.02	.005	.....
Jelly (quince)....	70	.03	.004	.....	Sugar.....	22	.....	.....	.....
Beef.....	160	6.32	.343	.....	Total.....	2,630	16.25	1.369	.0146
Peas.....	150	1.11	.123	.0180	<i>Apr. 5, 1911.</i>				
Boiled potato.....	180	.63	.082	.....	Oatmeal.....	20	.50	.093	.....
Rice, steamed.....	160	.45	.032	.....	Egg.....	54.7	1.13	.130	.....
Pears.....	200	.12	.025	.....	Butter.....	60	.07	.013	.....
Pear juice.....	80	.02	.008	.....	Sliced bananas.....	70	.13	.018	.....
Grape juice (c. c.)..	300	.12	.020	.....	Cream.....	90	.32	.068	.....
Carbonated water	.....	.....	.....	.....	Bread.....	170	2.81	.152	.....
(c. c.).....	300	.....	.....	.....	Jelly (currant and raspberry).....	70	.03	.005	.....
Water (c. c.).....	300	.....	.....	.....	Fowl.....	160	6.06	.346	.....
Sugar.....	63	.....	.....	.....	Peas.....	200	1.54	.168	.0218
Total.....	2,580	13.93	1.142	.0180	Hominy.....	160	.59	.017	.....
<i>Apr. 2, 1911.</i>					Sweet potato.....	160	.27	.069	.....
Cream of wheat....	20	.40	.022	.....	Water ice.....	200	.02	.011	.....
Egg.....	50.1	1.03	.119	.....	Grape juice (c. c.)..	300	.12	.020	.....
Butter.....	60	.07	.013	.....	Carbonated water	.....	.....	.....	.....
Orange.....	173	.33	.047	.....	(c. c.).....	300	.....	.....	.....
Cream.....	90	.34	.069	.....	Water (c. c.).....	300	.....	.....	.....
Bread.....	170	2.65	.153	.....	Sugar.....	38	.....	.....	.....
Jelly (crab apple)..	70	.03	.004	.....	Total.....	2,350	13.59	1.110	.0218
Fowl.....	160	6.02	.322	.....	<i>Apr. 6, 1911.</i>				
Peas.....	150	1.08	.123	.0167	Cream of wheat....	20	.40	.022	.....
Celery.....	140	.24	.044	.....	Egg.....	50.2	1.03	.119	.....
Boiled potato.....	180	.58	.121	.....	Butter.....	60	.07	.013	.....
Ice cream.....	250	.90	.179	.....	Orange.....	145	.28	.039	.....
Grape juice (c. c.)..	300	.12	.020	.....	Cream.....	240	.91	.180	.....
Carbonated water	.....	.....	.....	.....	Bread.....	170	2.55	.154	.....
(c. c.).....	300	.....	.....	.....	Jelly (quince)....	70	.03	.004	.....
Water (c. c.).....	300	.....	.....	.....	Veal.....	160	5.87	.367	.....
Sugar.....	29	.....	.....	.....	Peas.....	200	1.54	.164	.0242
Total.....	2,440	13.79	1.236	.0167	String beans.....	140	.38	.035	.....
<i>Apr. 3, 1911.</i>					Boiled potato.....	180	.67	.075	.....
Oatmeal.....	20	.50	.093	.....	Peaches.....	200	.22	.035	.....
Egg.....	54.2	1.12	.128	.....	Peach juice.....	80	.05	.011	.....
Butter.....	60	.07	.013	.....	Grape juice (c. c.)..	300	.12	.020	.....
Orange.....	176	.33	.048	.....	Carbonated water	.....	.....	.....	.....
Cream.....	240	.94	.178	.....	(c. c.).....	300	.....	.....	.....
Bread.....	170	2.70	.154	.....	Water (c. c.).....	550	.....	.....	.....
Jelly (grape).....	70	.03	.011	.....	Sugar.....	20	.....	.....	.....
Lamb.....	160	6.46	.370	.....	Total.....	2,890	14.12	1.238	.0242
Peas.....	150	1.17	.127	.0147	<i>Apr. 7, 1911.</i>				
Beets.....	140	.32	.060	.....	Oatmeal.....	20	.50	.093	.....
Mashed potato.....	180	.52	.105	.....	Egg.....	50.8	1.05	.120	.....
Rice pudding.....	200	1.30	.217	.....	Butter.....	60	.07	.013	.....
Grape juice (c. c.)..	300	.12	.020	.....	Sliced bananas.....	70	.17	.021	.....
Carbonated water	.....	.....	.....	.....	Cream.....	240	.84	.182	.....
(c. c.).....	300	.....	.....	.....	Bread.....	170	2.94	.161	.....
Water (c. c.).....	300	.....	.....	.....	Jelly (crab apple)..	70	.03	.004	.....
Sugar.....	51	.....	.....	.....	Lamb.....	160	5.76	.339	.....
Total.....	2,570	15.58	1.524	.0147					

¹ Not sure of weight of shell; error, if any, is slight.

CHART I.—Diet—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 7, 1911—Con.</i>					<i>Apr. 10, 1911—Con.</i>				
Peas.....	Grams. 200	Grams. 1.48	Grams. 0.173	Gram. 0.0226	Carbonated water	Grams. 300	Grams. .	Grams. .	Gram. .
Corn.....	140	.49	.098	.....	Water (c. c.).....	400	.....	.....	.....
Mashed potato.....	180	.54	.115	.....	Sugar.....	33	.....	.....	.....
Cherries.....	179	.24	.035	.....	Total.....	2,660	15.24	1.501	0.0208
Cherry juice.....	80	.06	.013	.....	<i>Apr. 11, 1911.</i>				
Grape juice (c. c.).....	300	.12	.020	.....	Cream of wheat.....	20	.40	.022	.....
Carbonated water					Egg.....	48.8	1.01	.116	.....
(c. c.).....	300	.....	.....	.....	Butter.....	60	.07	.013	.....
Water (c. c.).....	500	.....	.....	.....	Orange.....	189	.36	.051	.....
Sugar.....	50	.....	.....	.....	Cream.....	240	.91	.176	.....
Total.....	2,770	14.29	1.387	.0226	Bread.....	170	2.79	.162	.....
<i>Apr. 8, 1911.</i>					Jelly (grape).....	70	.03	.011	.....
Cream of wheat.....	20	.40	.022	.....	Beef.....	160	5.92	.336	.....
Egg.....	48.2	.99	.114	.....	Peas.....	200	1.44	.159	.0232
Butter.....	60	.07	.013	.....	Lima beans.....	160	2.03	.163	.....
Orange.....	125	.24	.034	.....	Boiled potato.....	180	.68	.107	.....
Cream.....	240	.91	.178	.....	Strawberries.....	200	.34	.058	.....
Bread.....	170	2.69	.152	.....	Strawberry juice.....	80	.02	.005	.....
Jelly (crab apple).....	70	.03	.004	.....	Grape juice (c. c.).....	300	.12	.020	.....
Beef.....	160	6.24	.343	.....	Carbonated water				
Peas.....	200	1.48	.166	.0210	(c. c.).....	300	.....	.....	.....
Boiled potato.....	180	.59	.127	.....	Water (c. c.).....	300	.....	.....	.....
Rice, steamed.....	160	.66	.052	.....	Sugar.....	26	.....	.....	.....
Pears.....	200	.12	.025	.....	Total.....	2,700	16.12	1.399	.0232
Pear juice.....	80	.02	.008	.....	<i>Apr. 12, 1911.</i>				
Grape juice (c. c.).....	300	.12	.020	.....	Oatmeal.....	20	.50	.093	.....
Carbonated water					Egg.....	56.9	1.17	.135	.....
(c. c.).....	400	.....	.....	.....	Butter.....	60	.07	.013	.....
Water (c. c.).....	300	.....	.....	.....	Sliced bananas.....	70	.13	.027	.....
Sugar.....	40	.....	.....	.....	Cream.....	90	.34	.069	.....
Total.....	2,750	14.56	1.258	.0210	Bread.....	170	2.65	.162	.....
<i>Apr. 9, 1911.</i>					Jelly (crab apple).....	70	.03	.004	.....
Cream of wheat.....	20	.40	.022	.....	Fowl.....	160	5.87	.331	.....
Egg.....	56.4	1.16	.134	.....	Peas.....	200	1.48	.173	.0234
Butter.....	60	.07	.013	.....	Hominy.....	160	.66	.022	.....
Orange.....	144	.28	.039	.....	Sweet potato.....	160	.26	.082	.....
Cream.....	90	.36	.069	.....	Water ice.....	200	.02	.011	.....
Bread.....	170	2.79	.154	.....	Grape juice (c. c.).....	300	.12	.020	.....
Jelly (currant).....	70	.03	.005	.....	Carbonated water				
Fowl.....	160	5.68	.333	.....	(c. c.).....	300	.....	.....	.....
Peas.....	200	1.48	.161	.0236	Water (c. c.).....	400	.....	.....	.....
Celery.....	140	.17	.050	.....	Sugar.....	43	.....	.....	.....
Boiled potato.....	180	.43	.115	.....	Total.....	2,460	13.30	1.142	.0234
Ice cream.....	250	.93	.181	.....	<i>Apr. 13, 1911.</i>				
Grape juice (c. c.).....	300	.12	.020	.....	Cream of wheat.....	20	.40	.022	.....
Carbonated water					Egg.....	59	1.22	.140	.....
(c. c.).....	300	.....	.....	.....	Butter.....	60	.07	.013	.....
Water (c. c.).....	300	.....	.....	.....	Orange.....	190	.36	.051	.....
Sugar.....	50	.....	.....	.....	Cream.....	240	.89	.182	.....
Total.....	2,490	13.90	1.296	.0236	Bread.....	170	2.86	.156	.....
<i>Apr. 10, 1911.</i>					Jelly (grape).....	70	.03	.011	.....
Oatmeal.....	20	.50	.093	.....	Veal.....	160	6.10	.363	.....
Egg.....	54.9	1.13	.130	.....	Peas.....	200	1.50	.161	.0230
Butter.....	60	.07	.013	.....	String beans.....	140	.38	.037	.....
Orange.....	133	.26	.036	.....	Boiled potato.....	180	.41	.090	.....
Cream.....	240	.89	.172	.....	Peaches.....	200	.22	.035	.....
Bread.....	170	2.52	.148	.....	Peach juice.....	80	.05	.011	.....
Jelly (crab apple).....	70	.03	.004	.....	Grape juice (c. c.).....	300	.12	.020	.....
Lamb.....	160	5.97	.343	.....	Carbonated water				
Peas.....	200	1.50	.157	.0208	(c. c.).....	200	.....	.....	.....
Beets.....	140	.46	.064	.....	Water (c. c.).....	400	.....	.....	.....
Mashed potato.....	180	.59	.108	.....	Sugar.....	26	.....	.....	.....
Rice pudding.....	200	1.20	.213	.....	Total.....	2,700	14.61	1.292	.0230
Grape juice (c. c.).....	300	.12	.020	.....				

CHART I.—*Diet*—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 14, 1911.</i>					<i>Apr. 17, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	Peas.....	200	1.48	0.164	0.0190
Egg.....	47.5	.98	.113	.....	Beets.....	140	.42	.094	.....
Butter.....	60	.07	.013	.....	Mashed potato.....	180	.67	.130	.....
Sliced bananas.....	70	.13	.020	.....	Rice pudding.....	200	1.10	.220	.....
Cream.....	210	.90	.167	.....	Grape juice (c. c.).....	300	.12	.020	.....
Bread.....	170	2.77	.159	.....	Carbonated water				
Jelly (crab apple).....	70	.03	.004	.....	(c. c.).....	300	.....	.....	.....
Lamb.....	160	5.33	.331	.....	Water (c. c.).....	600	.....	.....	.....
Peas.....	200	1.50	.166	0.0218	Sugar.....	48	.....	.....	.....
Corn.....	140	.56	.091	.....	Total.....	2,960	15.97	1.638	.0190
Mashed potato.....	180	.56	.105	.....	<i>Apr. 18, 1911.</i>				
Cherries.....	181	.24	.036	.....				
Cherry juice.....	80	.06	.013	.....	Cream of wheat.....	20	.40	.022	.....
Grape juice (c. c.).....	300	.12	.020	.....	Egg.....	55.2	1.14	.131	.....
Carbonated water					Butter.....	60	.07	.013	.....
(c. c.).....	300	.....	.....	.....	Orange.....	145	.28	.039	.....
Water (c. c.).....	300	.....	.....	.....	Cream.....	240	.89	.182	.....
Sugar.....	46	.....	.....	.....	Bread.....	170	2.75	.163	.....
Total.....	2,540	13.75	1.331	.0218	Jelly (currant).....	70	.03	.005	.....
<i>Apr. 15, 1911.</i>					Beef.....	160	5.84	.343	.....
					Peas.....	200	1.30	.166	.0218
Cream of wheat.....	20	.40	.022	.....	Lima beans.....	100	2.11	.180	.....
Egg.....	52.3	1.08	.124	.....	Boiled potato.....	180	.70	.085	.....
Butter.....	60	.07	.013	.....	Strawberries.....	200	.42	.058	.....
Orange.....	188	.36	.051	.....	Strawberry juice.....	80	.02	.005	.....
Cream.....	240	.94	.182	.....	Grape juice (c. c.).....	300	.12	.020	.....
Bread.....	170	2.79	.162	.....	Carbonated water				
Jelly (grape).....	70	.03	.011	.....	(c. c.).....	400	.....	.....	.....
Beef.....	160	6.40	.357	.....	Water (c. c.).....	400	.....	.....	.....
Peas.....	200	1.48	.169	.0186	Sugar.....	23	.....	.....	.....
Boiled potato.....	180	.52	.105	.....	Total.....	2,860	16.07	1.412	.0218
Rice, steamed.....	160	.58	.043	.....	<i>Apr. 19, 1911.</i>				
Peas.....	200	.12	.025	.....				
Pear juice.....	80	.02	.003	.....	Oatmeal.....	20	.50	.093	.....
Grape juice (c. c.).....	300	.12	.020	.....	Egg.....	54.5	1.12	.129	.....
Carbonated water					Butter.....	60	.07	.013	.....
(c. c.).....	300	.....	.....	.....	Sliced bananas.....	70	.12	.020	.....
Water (c. c.).....	400	.....	.....	.....	Cream.....	90	.35	.070	.....
Sugar.....	34	.....	.....	.....	Bread.....	170	2.67	.152	.....
Total.....	2,810	14.91	1.292	.0186	Jelly (crab apple).....	70	.03	.004	.....
<i>Apr. 16, 1911.</i>					Fowl.....	160	5.73	.343	.....
					Peas.....	200	1.10	.171	.0212
Cream of wheat.....	20	.40	.022	.....	Hominy.....	160	.69	.021	.....
Egg.....	53	1.09	.126	.....	Sweet potato.....	160	.35	.093	.....
Butter.....	60	.07	.013	.....	Water ice.....	200	.02	.011	.....
Orange.....	170	.32	.046	.....	Grape juice (c. c.).....	300	.12	.020	.....
Cream.....	90	.32	.069	.....	Carbonated water				
Bread.....	170	2.74	.166	.....	(c. c.).....	300	.....	.....	.....
Jelly (crab apple).....	70	.03	.004	.....	Water (c. c.).....	400	.....	.....	.....
Fowl.....	160	5.92	.339	.....	Sugar.....	44	.....	.....	.....
Peas.....	200	1.46	.173	.0202	Total.....	2,460	12.87	1.143	.0212
Celery.....	140	.21	.044	.....	<i>Apr. 20, 1911.¹</i>				
Boiled potato.....	180	.43	.091	.....				
Ice cream.....	250	.90	.185	.....	Cream of wheat.....	20	.40	.022	.....
Grape juice (c. c.).....	300	.12	.020	.....	Egg.....	51.5	1.06	.122	.....
Carbonated water					Orange.....	130	.25	.035	.....
(c. c.).....	300	.....	.....	.....	Cream.....	290	.32	.065	.....
Water (c. c.).....	400	.....	.....	.....	Water (c. c.).....	300	.....	.....	.....
Sugar.....	43	.....	.....	.....	Sugar.....	19	.....	.....	.....
Total.....	2,610	14.01	1.298	.0202	Total.....	611	2.03	.244	.....
<i>Apr. 17, 1911.</i>					<i>Apr. 26, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	54	1.11	.128	.....	Egg.....	54	1.11	.128	.....
Butter.....	60	.07	.013	.....	Butter.....	50	.03	.011	.....
Orange.....	216	.41	.058	.....	Sliced bananas.....	70	.13	.024	.....
Cream.....	240	.91	.180	.....	Cream.....	150	.59	.115	.....
Bread.....	170	2.64	.156	.....	Bread.....	170	2.57	.159	.....
Jelly (guinnee).....	70	.03	.004	.....				
Lamb.....	160	6.51	.378	.....				

¹The figures are for breakfast. Took charcoal before breakfast. Laid off squad. ² Estimated.

CHART I.—Diet—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Apr. 26, 1911—Con.</i>					<i>Apr. 30, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Jelly (grape).....	70	0.03	0.011		Cream of wheat.....	20	0.40	0.022	
Fowl.....	150	5.48	.324		Egg.....	53.7	1.11	.127	
Peas.....	300	2.28	.254	0.0255	Butter.....	50	.06	.011	
Sweet potato.....	160	.48	.091		Orange.....	212	.40	.057	
Water ice.....	200	.02	.011		Cream.....	150	.57	.115	
Water (c. c.).....	1,200				Bread.....	170	2.75	.162	
Sugar.....	27				Jelly (crab apple).....	70	.03	.004	
Total.....	2,620	13.25	1.221	.0255	Fowl.....	150	5.58	.318	
<i>Apr. 27, 1911.</i>					Peas.....	300	2.19	.246	0.0264
Cream of wheat.....	20	.40	.022		Boiled potato.....	160	.53	.092	
Egg.....	50.8	1.05	.120		Ice cream.....	250	.93	.175	
Butter.....	50	.06	.011		Grape juice (c. c.).....	400	.16	.027	
Orange.....	158	.30	.043		Carbonated water				
Cream.....	240	.89	.182		(c. c.).....	400			
Bread.....	170	2.64	.168		Water (c. c.).....	400			
Jelly (crab apple).....	70	.03	.004		Sugar.....	40			
Veal.....	150	5.57	.354		Total.....	2,830	14.71	1.356	.0264
Peas.....	300	2.22	.246	.0288	<i>May 1, 1911.</i>				
Boiled potato.....	160	.42	.087		Oatmeal.....	20	.50	.093	
Peaches.....	200	.22	.035		Egg.....	53.2	1.10	.126	
Peach juice.....	80	.05	.011		Butter.....	50	.06	.011	
Grape juice (c. c.).....	400	.16	.027		Orange.....	167	.31	.045	
Carbonated water					Cream.....	240	.89	.186	
(c. c.).....	400				Bread.....	170	2.60	.168	
Water (c. c.).....	800				Jelly (crab apple).....	70	.03	.004	
Sugar.....	38				Lamb.....	150	5.40	.335	
Total.....	3,290	14.01	1.310	.0288	Peas.....	300	2.19	.251	.0222
<i>Apr. 28, 1911.</i>					Mashed potato.....	160	.50	.090	
Oatmeal.....	20	.50	.093		Rice pudding.....	200	1.54	.220	
Egg.....	48	.99	.114		Grape juice (c. c.).....	400	.16	.027	
Butter.....	50	.06	.011		Carbonated water				
Sliced bananas.....	70	.15	.018		(c. c.).....	400			
Cream.....	240	.94	.191		Water (c. c.).....	500			
Bread.....	170	2.72	.165		Sugar.....	52			
Jelly (crab apple).....	70	.03	.004		Total.....	2,930	15.28	1.556	.0222
Lamb.....	150	5.61	.324		<i>May 2, 1911.</i>				
Peas.....	300	2.37	.262	.0177	Cream of wheat.....	20	.40	.022	
Mashed potato.....	160	.53	.096		Egg.....	63.3	1.30	.150	
Cherries.....	182	.24	.036		Butter.....	50	.06	.011	
Cherry juice.....	80	.06	.013		Orange.....	167	.31	.045	
Grape juice (c. c.).....	400	.16	.027		Cream.....	240	1.03	.193	
Carbonated water					Bread.....	170	2.75	.165	
(c. c.).....	500				Jelly (crab apple).....	70	.03	.004	
Water (c. c.).....	200				Beef.....	150	5.52	.315	
Sugar.....	45				Peas.....	300	2.25	.251	.0276
Total.....	2,690	14.36	1.354	.0177	Boiled potato.....	160	.42	.090	
<i>Apr. 29, 1911.</i>					Strawberries.....	200	.30	.058	
Cream of wheat.....	20	.40	.022		Strawberry juice.....	80	.02	.005	
Egg.....	56.2	1.16	.133		Grape juice (c. c.).....	400	.16	.027	
Butter.....	50	.06	.011		Carbonated water				
Orange.....	168	.32	.045		(c. c.).....	400			
Cream.....	240	.89	.178		Water (c. c.).....	300			
Bread.....	170	2.77	.163		Sugar.....	26			
Jelly (crab apple).....	70	.03	.004		Total.....	2,800	14.55	1.336	.0276
Beef.....	150	5.78	.311		<i>May 3, 1911.</i>				
Peas.....	300	2.46	.265	.0276	Oatmeal.....	20	.50	.093	
Boiled potato.....	160	.42	.091		Egg.....	54.6	1.12	.129	
Pears.....	200	.12	.025		Butter.....	50	.06	.011	
Pear juice.....	80	.02	.008		Sliced bananas.....	70	.13	.028	
Grape juice (c. c.).....	400	.16	.027		Cream.....	150	.57	.114	
Carbonated water					Bread.....	170	2.89	.159	
(c. c.).....	400				Jelly (crab apple).....	70	.01	.004	
Water (c. c.).....	900				Fowl.....	130	4.71	.281	
Sugar.....	51				Peas.....	300	2.13	.186	.0237
Total.....	3,420	14.59	1.283	.0276	String beans.....	150	.44	.055	.0074
					Sweet potato.....	130	.23	.055	
					Water ice.....	200	.02	.011	

CHART I.—Diet—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 3, 1911—Con.</i>					<i>May 7, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Grape juice (c. c.)..	400	0.16	0.027	.....	Cream of wheat....	20	0.40	0.022	.....
Carbonated water	.....	.....	.....	.....	Egg.....	52.3	1.08	.124	.....
(c. c.).....	400	.....	.....	.....	Butter.....	50	.06	.011	.....
Water (c. c.).....	300	.....	.....	.....	Orange.....	154	.30	.042	.....
Sugar.....	47	.....	.....	.....	Cream.....	150	.60	.119	.....
Total.....	2,640	12.97	1.153	0.0311	Bread.....	170	2.84	.150	.....
<i>May 4, 1911.</i>					Jelly (grape).....	70	.03	.011	.....
Cream of wheat....	20	.40	.022	.....	Fowl.....	130	5.24	.278	.....
Egg.....	55.4	1.14	.131	.....	Peas.....	300	2.10	.186	0.0231
Butter.....	50	.06	.011	.....	String beans.....	150	.47	.059	.0063
Orange.....	157	.30	.042	.....	Boiled potato.....	130	.39	.083	.....
Cream.....	240	.91	.174	.....	Ice cream.....	250	.85	.168	.....
Bread.....	170	2.52	.154	.....	Grape juice (c. c.)..	400	.16	.027	.....
Jelly (crab apple)..	70	.03	.004	.....	Carbonated water	.....	.....	.....	.....
Veal.....	130	4.84	.315	.....	(c. c.).....	400	.....	.....	.....
Peas.....	300	2.13	.131	.0246	Water (c. c.).....	300	.....	.....	.....
String beans.....	150	.42	.060	.0059	Sugar.....	58	.....	.....	.....
Boiled potato.....	130	.35	.072	.....	Total.....	2,780	14.52	1.280	.0294
Peaches.....	200	.22	.035	.....	<i>May 8, 1911.</i>				
Peach juice.....	80	.05	.011	.....	Oatmeal.....	20	.50	.093	.....
Grape juice (c. c.)..	400	.16	.027	.....	Egg.....	58.2	1.20	.138	.....
Carbonated water	.....	.....	.....	.....	Butter.....	50	.06	.011	.....
(c. c.).....	400	.....	.....	.....	Orange.....	149	.29	.040	.....
Water (c. c.).....	200	.....	.....	.....	Cream.....	240	.89	.176	.....
Sugar.....	32	.....	.....	.....	Bread.....	170	2.79	.171	.....
Total.....	2,780	13.53	1.239	.0305	Jelly (grape).....	70	.03	.011	.....
<i>May 5, 1911.</i>					Lamb.....	130	4.82	.276	.....
Oatmeal.....	20	.50	.093	.....	Peas.....	300	1.92	.181	.0219
Egg.....	54.5	1.12	.129	.....	String beans.....	150	.48	.077	.0072
Butter.....	50	.06	.011	.....	Mashed potato.....	130	.39	.084	.....
Sliced bananas.....	70	.14	.019	.....	Rice pudding.....	200	1.30	.215	.....
Cream.....	240	.96	.182	.....	Grape juice (c. c.)..	400	.16	.027	.....
Bread.....	170	2.99	.161	.....	Carbonated water	.....	.....	.....	.....
Jelly (crab apple)..	70	.03	.004	.....	(c. c.).....	400	.....	.....	.....
Lamb.....	130	4.71	.293	.....	Water (c. c.).....	300	.....	.....	.....
Peas.....	300	2.19	.136	.0270	Sugar.....	54	.....	.....	.....
String beans.....	150	.44	.059	.0071	Total.....	2,820	14.83	1.500	.0291
Mashed potato.....	130	.43	.075	.....	<i>May 9, 1911.</i>				
Peaches.....	200	.22	.035	.....	Cream of wheat....	20	.40	.022	.....
Peach juice.....	80	.05	.011	.....	Egg.....	51.6	1.06	.122	.....
Grape juice (c. c.)..	400	.16	.027	.....	Butter.....	50	.06	.011	.....
Carbonated water	.....	.....	.....	.....	Orange.....	251	.48	.068	.....
(c. c.).....	400	.....	.....	.....	Cream.....	240	.89	.180	.....
Water (c. c.).....	300	.....	.....	.....	Bread.....	170	2.75	.171	.....
Sugar.....	66	.....	.....	.....	Jelly (currant).....	70	.03	.005	.....
Total.....	2,830	14.00	1.285	.0341	Beef.....	130	5.14	.273	.....
<i>May 6, 1911.</i>					Peas.....	300	2.16	.204	.0276
Cream of wheat....	20	.40	.022	.....	String beans.....	150	.42	.056	.0060
Egg.....	52.1	1.07	.123	.....	Boiled potato.....	130	.40	.092	.....
Butter.....	50	.06	.011	.....	Strawberries.....	200	.36	.058	.....
Orange.....	156	.30	.042	.....	Strawberry juice...	80	.02	.005	.....
Cream.....	240	1.01	.193	.....	Grape juice (c. c.)..	400	.16	.027	.....
Bread.....	170	2.82	.153	.....	Carbonated water	.....	.....	.....	.....
Jelly (grape).....	70	.03	.011	.....	(c. c.).....	400	.....	.....	.....
Beef.....	130	4.97	.281	.....	Water (c. c.).....	300	.....	.....	.....
Peas.....	300	1.89	.139	.0249	Sugar.....	34	.....	.....	.....
String beans.....	150	.48	.063	.0074	Total.....	2,980	14.33	1.294	.0303
Boiled potato.....	130	.51	.087	.....	<i>May 10, 1911.</i>				
Pears.....	200	.12	.025	.....	Oatmeal.....	20	.50	.093	.....
Pear juice.....	80	.02	.008	.....	Egg.....	52.5	1.08	.124	.....
Grape juice (c. c.)..	400	.16	.027	.....	Butter.....	50	.06	.011	.....
Carbonated water	.....	.....	.....	.....	Sliced bananas.....	70	.13	.018	.....
(c. c.).....	400	.....	.....	.....	Cream.....	150	.59	.117	.....
Water (c. c.).....	300	.....	.....	.....	Bread.....	170	2.72	.166	.....
Sugar.....	43	.....	.....	.....	Jelly (currant).....	70	.03	.005	.....
Total.....	2,890	13.84	1.235	.0323	Fowl.....	130	4.78	.269	.....
					Peas.....	300	2.10	.175	.0201
					String beans.....	150	.45	.059	.0074

CHART I.—Diet—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 10, 1911—Con.</i>					<i>May 14, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Sweet potato.....	130	0.43	0.372	.....	Cream of wheat.....	20	0.40	0.022	.....
Water ice.....	200	.02	.011	.....	Egg.....	59.3	1.22	.141	.....
Grape juice (c.c.).....	400	.16	.027	.....	Butter.....	50	.06	.011	.....
Carbonated water					Orange.....	150	.29	.041	.....
(c.c.).....	400	.....	.....	.....	Cream.....	150	.57	.113	.....
Water (c.c.).....	400	.....	.....	.....	Bread.....	170	2.77	.169	.....
Sugar.....	38	.....	.....	.....	Jelly (grape).....	70	.03	.011	.....
Total.....	2,730	13.05	1.147	0.0275	Fowl.....	130	4.90	.269	.....
<i>May 11, 1911.</i>					Peas.....	300	2.31	.183	0.0270
Cream of wheat.....	20	.40	.022	.....	String beans.....	150	.47	.093	.0072
Egg.....	52.5	1.08	.124	.....	Boiled potato.....	130	.42	.085	.....
Butter.....	50	.06	.011	.....	Ice cream.....	250	.93	.188	.....
Orange.....	174	.33	.047	.....	Grape juice (c.c.).....	400	.16	.027	.....
Cream.....	240	.89	.182	.....	Carbonated water				
Bread.....	170	2.70	.143	.....	(c.c.).....	400	.....	.....	.....
Jelly (quince).....	70	.03	.004	.....	Water (c.c.).....	300	.....	.....	.....
Veal.....	130	5.14	.307	.....	Sugar.....	33	.....	.....	.....
Peas.....	300	2.10	.189	.0234	Total.....	2,760	14.53	1.323	.0342
String beans.....	150	.42	.060	.0072	<i>May 15, 1911.</i>				
Boiled potato.....	130	.40	.074	.....	Oatmeal.....	20	.50	.093	.....
Peaches.....	200	.22	.035	.....	Egg.....	55.2	1.14	.131	.....
Peach juice.....	80	.05	.011	.....	Butter.....	50	.06	.011	.....
Grape juice (c.c.).....	400	.16	.027	.....	Orange.....	196	.37	.053	.....
Carbonated water					Cream.....	240	1.01	.186	.....
(c.c.).....	500	.....	.....	.....	Bread.....	170	2.65	.163	.....
Water (c.c.).....	600	.....	.....	.....	Jelly (currant).....	70	.03	.005	.....
Sugar.....	35	.....	.....	.....	Lamb.....	130	4.99	.278	.....
Total.....	3,300	13.98	1.256	.0306	Peas.....	300	2.28	.181	.0267
<i>May 12, 1911.</i>					String beans.....	150	.48	.067	.0038
Oatmeal.....	20	.50	.093	.....	Mashed potato.....	130	.40	.076	.....
Egg.....	50.3	1.04	.119	.....	Rice pudding.....	200	1.12	.206	.....
Butter.....	50	.06	.011	.....	Grape juice (c.c.).....	400	.16	.027	.....
Sliced bananas.....	70	.10	.021	.....	Carbonated water				
Cream.....	240	.86	.180	.....	(c.c.).....	400	.....	.....	.....
Bread.....	170	2.74	.171	.....	Water (c.c.).....	400	.....	.....	.....
Jelly (quince).....	70	.03	.004	.....	Sugar.....	52	.....	.....	.....
Lamb.....	130	5.03	.287	.....	Total.....	2,960	15.19	1.477	.0335
Peas.....	300	2.22	.183	.0291	<i>May 16, 1911.</i>				
String beans.....	150	.45	.059	.0068	Cream of wheat.....	20	.40	.022	.....
Mashed potato.....	130	.42	.092	.....	Egg.....	56.2	1.16	.133	.....
Peaches.....	200	.22	.035	.....	Butter.....	50	.06	.011	.....
Peach juice.....	80	.05	.011	.....	Orange.....	167	.31	.045	.....
Grape juice (c.c.).....	400	.16	.027	.....	Cream.....	240	.91	.185	.....
Carbonated water					Bread.....	170	2.67	.166	.....
(c.c.).....	400	.....	.....	.....	Jelly (currant).....	70	.03	.005	.....
Water (c.c.).....	800	.....	.....	.....	Beef.....	130	5.02	.273	.....
Sugar.....	52	.....	.....	.....	Peas.....	300	2.10	.191	.0270
Total.....	3,310	13.88	1.293	.0359	String beans.....	150	.44	.060	.0075
<i>May 13, 1911.</i>					Boiled potato.....	130	.31	.092	.....
Cream of wheat.....	20	.40	.022	.....	Strawberries.....	200	.44	.058	.....
Egg.....	49.5	1.02	.117	.....	Strawberry juice.....	80	.02	.005	.....
Butter.....	50	.06	.011	.....	Water (c.c.).....	1,200	.....	.....	.....
Orange.....	190	.36	.051	.....	Sugar.....	29	.....	.....	.....
Cream.....	240	.79	.166	.....	Total.....	2,990	13.87	1.246	.0345
Bread.....	170	2.72	.165	.....	<i>May 17, 1911.</i>				
Jelly (grape).....	70	.03	.011	.....	Oatmeal.....	20	.50	.093	.....
Beef.....	130	5.08	.269	.....	Egg.....	51.1	1.05	.121	.....
Peas.....	300	2.16	.197	.0246	Butter.....	50	.06	.011	.....
String beans.....	150	.44	.058	.0078	Sliced bananas.....	70	.15	.023	.....
Boiled potato.....	130	.39	.084	.....	Cream.....	150	.57	.115	.....
Pears.....	200	.12	.025	.....	Bread.....	170	2.69	.165	.....
Pear juice.....	80	.02	.008	.....	Jelly (currant).....	70	.03	.005	.....
Grape juice (c.c.).....	400	.16	.027	.....	Fowl.....	130	4.59	.261	.....
Carbonated water					Peas.....	300	1.68	.189	.....
(c.c.).....	400	.....	.....	.....	String beans.....	150	.45	.064	.....
Water (c.c.).....	400	.....	.....	.....	Sweet potato.....	130	.33	.061	.....
Sugar.....	44	.....	.....	.....	Water ice.....	200	.02	.011	.....
Total.....	3,220	13.75	1.211	.0324	Grape juice (c.c.).....	400	.16	.027	.....
					Carbonated water				
					(c.c.).....	400	.....	.....	.....

CHART I.—Diet—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>May 17, 1911—Con.</i>					<i>May 21, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Water (c. c.).....	200			.....	Cream of wheat.....	20	0.40	0.022	.....
Sugar.....	54			.....	Egg.....	49.2	1.01	.117	.....
Total.....	2,550	12.28	1.146	.....	Butter.....	50	.06	.011	.....
<i>May 18, 1911.</i>					Orange.....	155	.30	.042	.....
Cream of wheat.....	20	.40	.022	.....	Cream.....	150	.59	.114	.....
Egg.....	53.9	1.11	.128	.....	Bread.....	170	2.87	.175	.....
Butter.....	50	.06	.011	.....	Jelly (quince).....	70	.....	.004	.....
Orange.....	161	.30	.043	.....	Fowl.....	130	5.02	.273	.....
Cream.....	240	.91	.191	.....	Peas.....	300	1.71	.197	.....
Bread.....	170	2.75	.171	.....	String beans.....	150	.44	.055	.....
Jelly (crab apple).....	70	.03	.004	.....	Boiled potato.....	130	.48	.083	.....
Veal.....	130	5.14	.304	.....	Ice cream.....	250	.90	.181	.....
Peas.....	300	1.65	.186	.....	Grape juice (c. c.).....	400	.16	.027	.....
String beans.....	150	.44	.052	.....	Carbonated water				
Boiled potato.....	130	.29	.067	.....	(c. c.).....	400	.....	.....	.....
Peaches.....	200	.22	.035	.....	Water (c. c.).....	600	.....	.....	.....
Peach juice.....	80	.05	.011	.....	Sugar.....	38	.....	.....	.....
Grape juice (c. c.).....	400	.16	.027	.....	Total.....	3,060	13.94	1.301	.....
Carbonated water					<i>May 22, 1911.</i>				
(c. c.).....	400	.....	.....	.....	Oatmeal.....	20	.50	.093	.....
Water (c. c.).....	300	.....	.....	.....	Egg.....	64	1.32	.152	.....
Sugar.....	26	.....	.....	.....	Butter.....	50	.06	.011	.....
Total.....	2,880	13.51	1.252	.....	Orange.....	152	.29	.041	.....
<i>May 19, 1911.</i>					Cream.....	240	.91	.185	.....
Oatmeal.....	20	.50	.093	.....	Bread.....	170	2.75	.171	.....
Egg.....	52.6	1.08	.125	.....	Jelly (quince).....	70	.03	.004	.....
Butter.....	50	.06	.011	.....	Lamb.....	130	4.24	.269	.....
Sliced bananas.....	70	.13	.017	.....	Peas.....	300	1.80	.191	.....
Cream.....	205	.74	.163	.....	String beans.....	150	.45	.063	.....
Bread.....	170	2.77	.175	.....	Mashed potato.....	130	.44	.073	.....
Jelly (currant).....	70	.03	.005	.....	Rice pudding.....	200	1.24	.201	.....
Lamb.....	130	4.29	.265	.....	Grape juice (c. c.).....	400	.16	.027	.....
Peas.....	300	1.65	.178	.....	Carbonated water				
String beans.....	150	.42	.062	.....	(c. c.).....	400	.....	.....	.....
Mashed potato.....	130	.35	.072	.....	Water (c. c.).....	600	.....	.....	.....
Peaches.....	200	.22	.035	.....	Sugar.....	62	.....	.....	.....
Peach juice.....	80	.05	.011	.....	Total.....	3,140	14.19	1.481	.....
Grape juice (c. c.).....	400	.16	.027	.....	<i>May 23, 1911.</i>				
Carbonated water					Cream of wheat.....	20	.40	.022	.....
(c. c.).....	400	.....	.....	.....	Egg.....	55.7	1.15	.132	.....
Water (c. c.).....	400	.....	.....	.....	Butter.....	50	.06	.011	.....
Sugar.....	50	.....	.....	.....	Orange.....	190	.36	.051	.....
Total.....	2,880	12.45	1.239	.....	Cream.....	240	.89	.186	.....
<i>May 20, 1911.</i>					Bread.....	170	2.67	.157	.....
Cream of wheat.....	20	.40	.022	.....	Jelly (grape).....	70	.03	.011	.....
Egg.....	53	1.09	.126	.....	Beef.....	130	5.28	.276	.....
Butter.....	50	.06	.011	.....	Peas.....	300	1.83	.181	.....
Orange.....	137	.26	.037	.....	String beans.....	150	.45	.052	.....
Cream.....	240	.98	.195	.....	Boiled potato.....	130	.38	.065	.....
Bread.....	170	2.64	.175	.....	Strawberries.....	200	.36	.058	.....
Jelly (currant).....	70	.03	.005	.....	Strawberry juice.....	80	.02	.005	.....
Beef.....	130	4.78	.290	.....	Water (c. c.).....	1,300	.....	.....	.....
Peas.....	300	1.71	.189	.....	Sugar.....	28	.....	.....	.....
String beans.....	150	.42	.067	.....	Total.....	3,110	13.88	1.207	.....
Boiled potato.....	130	.39	.092	.....	<i>May 24, 1911.</i>				
Pears.....	200	.12	.025	.....	Oatmeal.....	20	.50	.093	.....
Pear juice.....	80	.02	.008	.....	Egg.....	157	1.17	.135	.....
Grape juice (c. c.).....	400	.16	.027	.....	Butter.....	50	.06	.011	.....
Carbonated water					Sliced bananas.....	70	.13	.019	.....
(c. c.).....	400	.....	.....	.....	Cream.....	150	.59	.117	.....
Water (c. c.).....	400	.....	.....	.....	Bread.....	170	2.82	.163	.....
Sugar.....	42	.....	.....	.....	Jelly (grape).....	70	.03	.011	.....
Total.....	2,970	13.06	1.269	.....	Fowl.....	130	4.78	.261	.....
					Peas.....	300	1.65	.189	.....
					String beans.....	150	.45	.058	.....

1 Estimated.

CHART I.—Diet—Continued.

SUBJECT No. 5—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 24, 1911—Con.</i>					<i>May 27, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Sweet potato.....	130	0.31	0.066	.....	Grape juice (c. c.) ..	400	0.16	0.027	.....
Water ice.....	200	.02	.011	.....	Carbonated water	.....	.....	.....	.....
Grape juice (c. c.) ..	400	.16	.027	.....	(c. c.).....	400	.....	.....	.....
Carbonated water	.....	.....	.....	.....	Water (c. c.).....	400	.....	.....	.....
(c. c.).....	400	.....	.....	.....	Sugar.....	37	.....	.....	.....
Water (c. c.).....	400	.....	.....	.....	Total.....	3,060	14.07	1.269	.....
Sugar.....	36	.....	.....	.....	<i>May 28, 1911.</i>				
Total.....	2,730	12.67	1.161	.....	Cream of wheat.....	20	.40	.022	.....
<i>May 25, 1911.</i>					Egg.....	54.3	1.12	.129	.....
Cream of wheat.....	20	.40	.022	.....	Butter.....	50	.06	.011	.....
Egg.....	52.7	1.09	.125	.....	Orange.....	126	.24	.034	.....
Butter.....	50	.06	.011	.....	Cream.....	150	.54	.118	.....
Orange.....	195	.37	.053	.....	Bread.....	170	2.72	.177	.....
Cream.....	240	.94	.186	.....	Jelly (currant).....	70	.03	.005	.....
Bread.....	170	2.70	.162	.....	Fowl.....	130	4.82	.265	.....
Jelly (grape).....	70	.03	.011	.....	Peas.....	300	1.62	.186	.....
Veal.....	130	5.28	.304	.....	String beans.....	150	.45	.051	.....
Peas.....	300	1.71	.202	.....	Boiled potato.....	130	.52	.050	.....
String beans.....	150	.45	.054	.....	Ice cream.....	250	.88	.166	.....
Boiled potato.....	130	.49	.069	.....	Grape juice (c. c.) ..	400	.16	.027	.....
Peaches.....	200	.22	.035	.....	Carbonated water	.....	.....	.....	.....
Peach juice.....	80	.05	.011	.....	(c. c.).....	400	.....	.....	.....
Grape juice (c. c.) ..	400	.16	.027	.....	Water (c. c.).....	400	.....	.....	.....
Carbonated water	.....	.....	.....	.....	Sugar.....	39	.....	.....	.....
(c. c.).....	400	.....	.....	.....	Total.....	2,840	13.56	1.241	.....
Water (c. c.).....	400	.....	.....	.....	<i>May 29, 1911.</i>				
Sugar.....	46	.....	.....	.....	Oatmeal.....	20	.50	.093	.....
Total.....	3,030	13.95	1.272	.....	Egg.....	53.6	1.10	.127	.....
<i>May 26, 1911.</i>					Butter.....	50	.06	.011	.....
Cream of wheat.....	20	.40	.022	.....	Orange.....	161	.30	.043	.....
Egg.....	55.6	1.14	.132	.....	Cream.....	240	.91	.180	.....
Butter.....	50	.06	.011	.....	Bread.....	170	2.65	.161	.....
Sliced bananas.....	70	.13	.017	.....	Jelly (currant).....	70	.03	.005	.....
Cream.....	240	.91	.182	.....	Lamb.....	130	4.91	.287	.....
Bread.....	170	2.75	.157	.....	Peas.....	300	1.62	.202	.....
Jelly (quince).....	70	.03	.004	.....	String beans.....	150	.50	.051	.....
Lamb.....	130	4.71	.281	.....	Mashed potato.....	130	.40	.045	.....
Peas.....	300	1.77	.194	.....	Rice pudding.....	200	1.56	.210	.....
String beans.....	150	.45	.052	.....	Grape juice (c. c.) ..	400	.16	.027	.....
Mashed potato.....	130	.40	.043	.....	Carbonated water	.....	.....	.....	.....
Peaches.....	200	.22	.035	.....	(c. c.).....	400	.....	.....	.....
Peach juice.....	80	.05	.011	.....	Water (c. c.).....	500	.....	.....	.....
Grape juice (c. c.) ..	400	.16	.027	.....	Sugar.....	24	.....	.....	.....
Carbonated water	.....	.....	.....	.....	Total.....	3,000	14.70	1.442	.....
(c. c.).....	400	.....	.....	.....	<i>May 30, 1911.</i>				
Water (c. c.).....	300	.....	.....	.....	Cream of wheat.....	20	.40	.022	.....
Sugar.....	56	.....	.....	.....	Egg.....	50.4	1.04	.119	.....
Total.....	2,820	13.18	1.168	.....	Butter.....	50	.06	.011	.....
<i>May 27, 1911.</i>					Orange.....	165	.31	.045	.....
Oatmeal.....	20	.50	.093	.....	Cream.....	240	.91	.182	.....
Egg.....	51.4	1.06	.122	.....	Bread.....	170	2.77	.165	.....
Butter.....	50	.06	.011	.....	Jelly (quince).....	70	.03	.004	.....
Orange.....	235	.45	.063	.....	Beef.....	130	5.06	.276	.....
Cream.....	240	.89	.178	.....	Peas.....	300	1.56	.194	.....
Bread.....	170	2.69	.168	.....	String beans.....	150	.45	.048	.....
Jelly (quince).....	70	.03	.004	.....	Boiled potato.....	130	.38	.048	.....
Beef.....	130	5.40	.276	.....	Strawberries.....	200	.36	.058	.....
Peas.....	300	1.80	.191	.....	Strawberry juice.....	80	.02	.005	.....
String beans.....	150	.41	.060	.....	Water (c. c.).....	1,200	.....	.....	.....
Boiled potato.....	130	.48	.043	.....	Sugar.....	57	.....	.....	.....
Pears.....	200	.12	.025	.....	Total.....	3,010	13.35	1.177	.....
Pear juice.....	80	.02	.008	.....				

CHART I.—*Diet*—Continued.

SUBJECT No. 6 (W. C. T.).

Food.	Mon- day.	Tues- day.	Wednes- day.	Thurs- day.	Friday.	Satur- day.	Sun- day.
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Cream of wheat.....		20		20		20	20
Oatmeal.....	20		20		20		
Egg.....							
Butter.....	10	10	10	10	10	10	10
Orange.....							
Sliced banana.....			80		80		
Cream.....	180	180	180	180	180	180	100
Bread.....	220	220	220	220	220	220	220
Jelly.....	30	30	30	30	30	30	30
Beef.....		160				160	
Fowl.....			160				160
Veal.....				160			
Lamb.....	160				160		
Peas.....	150	150	150	150	150	150	150
Beets.....	100						
Lima beans.....		100					
String beans.....				100			
Corn.....					100		
Celery.....							100
Hominy.....			100				
Potato.....	160	160		160	160	160	160
Sweet potato.....			160				
Steamed rice.....						100	
Rice pudding.....	300						
Ice cream.....							300
Water ice.....			300				
Peaches.....				300			
Pears.....						400	
Cherries.....					325		
Strawberries.....		300					
Grape juice (c. c.).....							
Carbonated water (c. c.).....							
Water (c. c.).....							
Sugar.....							
Strawberry juice.....							

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 1, 1911.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Mar. 2, 1911—Con.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093		Peaches.....	300	0.33	0.053	
Egg.....	54	1.11	.128		Peach juice.....	100	.06	.014	
Butter.....	10	.01	.002		Grape juice (c. c.).....	500	.20	.034	
Sliced bananas.....	80	.15	.036		Carbonated water				
Cream.....	180	.68	.140		(c. c.).....	500			
Bread.....	220	3.52	.184		Water (c. c.).....	100			
Jelly (grape).....	30	.01	.005		Sugar.....	79			
Fowl.....	160	4.56	.303		Total.....	2,770	13.83	1.185	
Peas.....	150	.84	.085						
Hominy.....	100	.39	.011		<i>Mar. 3, 1911.</i>				
Mashed potato.....	160	.56	.101		Oatmeal.....	20	.50	.093	
Water ice.....	300	.03	.017		Egg.....	58.8	1.21	.139	
Grape juice (c. c.).....	400	.16	.027		Butter.....	10	.01	.002	
Carbonated water					Sliced bananas.....	80	.14	.021	
(c. c.).....	400				Cream.....	180	.74	.064	
Water (c. c.).....	100				Bread.....	220	3.59	.215	
Sugar.....	82				Jelly (grape).....	30	.01	.005	
Total.....	2,460	12.52	1.194		Lamb.....	160	5.38	.378	
<i>Mar. 2, 1911.</i>					Peas.....	150	.83	.098	
Cream of wheat.....	20	.40	.022		Corn.....	100	.37	.073	
Egg.....	45	.93	.107		Mashed potato.....	160	.56	.109	
Butter.....	10	.01	.002		Cherries.....	308	.40	.061	
Orange.....	111.5	.21	.030		Cherry juice.....	100	.07	.016	
Cream.....	180	.63	.145		Grape juice (c. c.).....	500	.20	.034	
Bread.....	220	3.34	.198		Carbonated water				
Jelly (grape).....	30	.01	.005		(c. c.).....	500			
Veal.....	160	6.02	.384		Water (c. c.).....	100			
Peas.....	150	.87	.092		Sugar.....	59			
String beans.....	100	.24	.030		Total.....	2,740	14.01	1.308	
Boiled potato.....	160	.58	.099						

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 4, 1911.</i>					<i>Mar. 7, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	20	0.40	0.022	.....	Strawberries.....	300	0.54	0.088	.....
Egg.....	52.2	1.08	.124	.....	Strawberry juice....	100	.02	.007	.....
Butter.....	10	.01	.002	.....	Grape juice (c. c.)..	500	.20	.034	.....
Orange.....	173.5	.33	.047	.....	Carbonated water				.....
Cream.....	180	.68	.138	.....	(c. c.).....	500			.....
Bread.....	220	3.45	.252	.....	Water (c. c.).....	100			.....
Jelly (grape).....	30	.01	.005	.....	Sugar.....	77.5			.....
Beef.....	160	5.89	.363	.....					.....
Peas.....	150	.89	.118	.....	Total.....	2,840	14.96	1.311	.....
Boiled potato.....	160	.59	.130	.....					.....
Rice, steamed.....	100	.33	.027	.....	<i>Mar. 8, 1911.</i>				
Pears.....	300	.18	.038	.....	Oatmeal.....	20	.50	.093	.....
Pear juice.....	100	.03	.010	.....	Egg.....	54.4	1.12	.129	.....
Grape juice (c. c.)..	500	.20	.034	.....	Butter.....	10	.01	.002	.....
Carbonated water				.....	Sliced bananas.....	80	.16	.022	.....
(c. c.).....	500			.....	Cream.....	180	.68	.135	.....
Water (c. c.).....	100			.....	Bread.....	220	3.70	.227	.....
Sugar.....	89			.....	Jelly (currant and				.....
				.....	raspberry).....	30	.01	.002	.....
Total.....	2,750	14.07	1.310	.....	Fowl.....	160	6.27	.357	.....
				.....	Peas.....	150	.87	.093	.....
<i>Mar. 5, 1911.</i>					Hominy.....	100	.37	.014	.....
Cream of wheat....	20	.40	.022	.....	Sweet potato.....	160	.35	.067	.....
Egg.....	47	.97	.111	.....	Water ice.....	300	.03	.017	.....
Butter.....	10	.01	.002	.....	Grape juice (c. c.)..	500	.20	.034	.....
Orange.....	115	.22	.031	.....	Carbonated water				.....
Cream.....	100	.38	.073	.....	(c. c.).....	500			.....
Bread.....	220	3.54	.217	.....	Water (c. c.).....	100			.....
Jelly (grape).....	30	.01	.005	.....	Sugar.....	82.5			.....
Fowl.....	160	6.21	.375	.....					.....
Peas.....	150	.86	.096	.....	Total.....	2,650	14.27	1.192	.....
Celery.....	100	.17	.028	.....					.....
Boiled potato.....	160	.62	.102	.....	<i>Mar. 9, 1911.</i>				
Ice cream.....	300	1.11	.218	.....	Cream of wheat....	20	.40	.022	.....
Grape juice (c. c.)..	500	.20	.034	.....	Egg.....	56	1.15	.133	.....
Carbonated water				.....	Butter.....	10	.01	.002	.....
(c. c.).....	500			.....	Orange.....	152.5	.30	.041	.....
Water (c. c.).....	100			.....	Cream.....	180	.70	.134	.....
Sugar.....	92			.....	Bread.....	220	3.67	.215	.....
				.....	Jelly (currant and				.....
Total.....	2,600	14.70	1.314	.....	raspberry).....	30	.01	.002	.....
				.....	Veal.....	160	5.71	.387	.....
<i>Mar. 6, 1911.</i>					Peas.....	150	.78	.084	.....
Oatmeal.....	20	.50	.093	.....	String beans.....	100	.27	.024	.....
Egg.....	53.3	1.10	.126	.....	Boiled potato.....	160	.61	.102	.....
Butter.....	10	.01	.002	.....	Peaches.....	300	.33	.053	.....
Orange.....	189	.36	.051	.....	Peach juice.....	100	.06	.014	.....
Cream.....	180	.67	.134	.....	Grape juice (c. c.)..	500	.20	.034	.....
Bread.....	220	3.54	.213	.....	Carbonated water				.....
Jelly (grape).....	30	.01	.005	.....	(c. c.).....	500			.....
Lamb.....	160	5.46	.357	.....	Water (c. c.).....	100			.....
Peas.....	150	.84	.094	.....	Sugar.....	97			.....
Beets.....	100	.26	.077	.....					.....
Mashed potato.....	160	.54	.098	.....	Total.....	2,840	14.20	1.247	.....
Rice pudding.....	300	2.04	.359	.....					.....
Grape juice (c. c.)..	500	.20	.034	.....	<i>Mar. 10, 1911.</i>				
Carbonated water				.....	Oatmeal.....	20	.50	.093	.....
(c. c.).....	500			.....	Egg.....	57	1.17	.135	.....
Water (c. c.).....	100			.....	Butter.....	10	.01	.002	.....
Sugar.....	55			.....	Sliced bananas.....	80	.17	.021	.....
				.....	Cream.....	180	.67	.134	.....
Total.....	2,730	15.53	1.643	.....	Bread.....	220	3.72	.217	.....
				.....	Jelly (grape).....	30	.01	.005	.....
<i>Mar. 7, 1911.</i>					Lamb.....	160	5.83	.352	.....
Cream o wheat....	20	.40	.022	.....	Peas.....	150	.80	.080	.....
Egg.....	51.7	1.06	.123	.....	Corn.....	100	.42	.068	.....
Butter.....	10	.01	.002	.....	Boiled potato.....	160	.66	.091	.....
Orange.....	181.5	.34	.049	.....	Cherries.....	330.5	.43	.065	.....
Cream.....	180	.70	.137	.....	Cherry juice.....	100	.07	.016	.....
Bread.....	220	3.65	.211	.....	Grape juice (c. c.)..	500	.20	.034	.....
Jelly (currant and				.....	Carbonated water				.....
raspberry).....	30	.01	.002	.....	(c. c.).....	500			.....
Beef.....	160	5.57	.343	.....	Water (c. c.).....	100			.....
Peas.....	150	.84	.089	.....	Sugar.....	53			.....
Lima beans.....	100	1.11	.099	.....					.....
Boiled potato.....	160	.51	.103	.....	Total.....	2,750	14.16	1.313	.....

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 11, 1911.</i>					<i>Mar. 22, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	20	0.40	0.022	.....	Oatmeal.....	20	0.50	0.093	.....
Egg.....	56.5	1.16	.134	.....	Egg.....	57.5	1.18	.136	.....
Butter.....	10	.01	.002	.....	Butter.....	10	.01	.002	.....
Orange.....	168.5	.32	.046	.....	Sliced bananas....	80	.16	.017	.....
Cream.....	180	.70	.137	.....	Cream.....	180	.74	.135	.....
Bread.....	220	3.67	.211	.....	Bread.....	220	3.76	.196	.....
Jelly (grape).....	30	.01	.005	.....	Jelly (currant and raspberry).....	30	.01	.002	.....
Beef.....	160	5.98	.342	.....	Fowl.....	160	6.18	.314	.....
Peas.....	150	.81	.080	.....	Peas.....	150	1.11	.128	0.0165
Mashed potato.....	160	.61	.103	.....	Hominy.....	100	.38	.011	.....
Rice (steamed).....	100	.35	.020	.....	Sweet potato.....	160	.40	.063	.....
Pears.....	300	.18	.038	.....	Water ice.....	300	.03	.017	.....
Pear juice.....	100	.03	.010	.....	Grape juice (c. c.)..	500	.20	.034	.....
Grape juice (c. c.)..	500	.20	.034	.....	Carbonated water (c. c.).....	500	.....	.....	.....
Carbonated water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	100	.....	.....	.....
Water (c. c.).....	100	.....	.....	.....	Sugar.....	97.5	.....	.....	.....
Sugar.....	96	.....	.....	.....		
Total.....	2,850	14.43	1.184	.....	Total.....	2,670	14.66	1.148	.0165
<i>Mar. 12, 1911.</i>					<i>Mar. 23, 1911.</i>				
Cream of wheat....	20	.40	.022	.....	Cream of wheat....	20	.40	.022	.....
Egg.....	52.5	1.08	.124	.....	Egg.....	53.3	1.10	.126	.....
Butter.....	10	.01	.002	.....	Butter.....	10	.01	.002	.....
Orange.....	178	.34	.048	.....	Orange.....	186.8	.35	.050	.....
Cream.....	100	.36	.072	.....	Cream.....	180	.65	.127	.....
Bread.....	220	3.70	.219	.....	Bread.....	220	3.59	.204	.....
Jelly (grape).....	30	.01	.005	.....	Jelly (currant and raspberry).....	30	.01	.002	.....
Fowl.....	160	5.49	.331	.....	Veal.....	160	6.32	.367	.....
Peas.....	150	.81	.080	.....	Peas.....	150	1.11	.128	.0147
Celery.....	100	.14	.034	.....	String beans.....	100	.26	.026	.....
Boiled potato.....	160	.62	.106	.....	Boiled potato.....	160	.64	.115	.....
Ice cream.....	300	1.11	.197	.....	Peaches.....	300	.33	.053	.....
Grape juice (c. c.)..	500	.20	.034	.....	Peach juice.....	100	.06	.014	.....
Carbonated water (c. c.).....	500	.....	.....	.....	Grape juice (c. c.)..	500	.20	.034	.....
Water (c. c.).....	100	.....	.....	.....	Carbonated water (c. c.).....	500	.....	.....	.....
Sugar.....	101	.....	.....	.....	Water (c. c.).....	100	.....	.....	.....
Total.....	2,680	14.27	1.274	.....	Sugar.....	75.5	.....	.....	.....
<i>Mar. 13, 1911.</i>					Total.....	2,850	15.03	1.270	.0147
					<i>Mar. 24, 1911</i>				
Oatmeal.....	20	.50	.093	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	65.5	1.35	.155	.....	Egg.....	55.5	1.14	.132	.....
Butter.....	10	.01	.002	.....	Butter.....	10	.01	.002	.....
Orange.....	132.5	.26	.036	.....	Sliced bananas....	80	.14	.019	.....
Cream.....	180	.67	.134	.....	Cream.....	180	.70	.134	.....
Bread.....	220	3.65	.213	.....	Bread.....	220	3.50	.200	.....
Jelly (grape).....	30	.01	.005	.....	Jelly (currant and raspberry).....	30	.01	.002	.....
Lamb.....	160	5.33	.331	.....	Lamb.....	160	6.14	.339	.....
Peas.....	150	.81	.083	.....	Peas.....	150	1.14	.123	.0170
Beets.....	100	.27	.086	.....	Corn.....	100	.39	.069	.....
Mashed potato.....	160	.58	.099	.....	Mashed potato.....	160	.58	.105	.....
Rice pudding.....	300	2.16	.420	.....	Cherries.....	309.5	.40	.061	.....
Grape juice (c. c.)..	500	.20	.034	.....	Cherry juice.....	100	.07	.016	.....
Carbonated water (c. c.).....	500	.....	.....	.....	Grape juice (c. c.)..	500	.20	.034	.....
Water (c. c.).....	100	.....	.....	.....	Carbonated water (c. c.).....	500	.....	.....	.....
Sugar.....	66.7	.....	.....	.....	Water (c. c.).....	100	.....	.....	.....
Total.....	2,700	15.80	1.691	.....	Sugar.....	49	.....	.....	.....
<i>Mar. 14, 1911.¹</i>					Total.....	2,730	14.92	1.329	.0170
					<i>Mar. 25, 1911.</i>				
Cream of wheat....	20	.....	.022	.....	Cream of wheat....	20	.40	.022	.....
Orange.....	108	.....	.029	.....	Egg.....	54.5	1.12	.129	.....
Cream.....	80	.....	.060	.....	Butter.....	10	.01	.002	.....
Sugar.....	15	.....	.....	.....		
Total.....	.....	.....	.111	.....				

¹ Took sick.

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 25, 1911—Con.</i>					<i>Mar. 28, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Orange.....	148.7	0.29	0.040	.....	Lima beans.....	100	1.29	0.093	.....
Cream.....	180	.70	.132	.....	Boiled potato.....	160	.48	.101	.....
Bread.....	220	3.45	.202	.....	Strawberries.....	300	.42	.088	.....
Jelly (grape).....	30	.01	.005	.....	Strawberry juice...	100	.02	.007	.....
Beef.....	160	6.37	.339	.....	Grape juice (c.c.)..	400	.16	.027	.....
Peas.....	150	1.17	.126	0.0179	Carbonated water	.....	.....	.....	.....
Boiled potato.....	160	.50	.087	.....	(c.c.).....	400	.....	.....	.....
Rice, steamed.....	100	.34	.034	.....	Water (c.c.).....	100	.....	.....	.....
Pears.....	380	.18	.038	.....	Sugar.....	23.5	.....	.....	.....
Pear juice.....	100	.03	.010	.....				
Grape juice (c.c.)..	500	.20	.034	.....	Total.....	2,590	15.97	1.322	0.0173
Carbonated water	.....	.....	.....	.....	
(c.c.).....	500	.....	.....	.....	<i>Mar. 29, 1911</i>				
Water (c.c.).....	100	.....	.....	.....	Oatmeal.....	20	.50	.093	.....
Sugar.....	75	.....	.....	.....	Egg.....	60.5	1.25	.143	.....
Total.....	2,810	14.77	1.200	.0179	Butter.....	10	.01	.002	.....
<i>Mar. 26, 1911.</i>					Sliced bananas.....	80	.18	.016	.....
Cream of wheat....	20	.40	.022	.....	Cream.....	180	.74	.138	.....
Egg.....	51.5	1.06	.122	.....	Bread.....	220	3.78	.204	.....
Butter.....	10	.01	.002	.....	Jelly (quince).....	30	.....	.002	.....
Orange.....	156	.30	.042	.....	Fowl.....	160	6.11	.343	.....
Cream.....	100	.39	.074	.....	Peas.....	150	1.14	.127	.0186
Bread.....	220	3.54	.209	.....	Hominy.....	100	.39	.013	.....
Jelly (currant and	.....	.....	.....	.....	Sweet potato.....	160	.35	.000	.....
raspberry).....	30	.01	.002	.....	Water ice.....	300	.03	.017	.....
Fowl.....	160	5.82	.331	.....	Grape juice (c.c.)..	580	.20	.034	.....
Peas.....	150	1.08	.118	.0183	Carbonated water	.....	.....	.....	.....
Celery.....	100	.21	.046	.....	(c.c.).....	500	.....	.....	.....
Boiled potato.....	160	.66	.081	.....	Water (c.c.).....	100	.....	.....	.....
Ice cream.....	300	1.14	.210	.....	Sugar.....	116.5	.....	.....	.....
Grape juice (c.c.)..	500	.20	.034	.....	Total.....	2,690	14.68	1.192	.0186
Carbonated water	.....	.....	.....	.....	
(c.c.).....	500	.....	.....	.....	<i>Mar. 30, 1911</i>				
Water (c.c.).....	100	.....	.....	.....	Cream of wheat....	20	.40	.022	.....
Sugar.....	99	.....	.....	.....	Egg.....	49.5	1.02	.117	.....
Total.....	2,660	14.82	1.293	.0183	Butter.....	10	.01	.002	.....
<i>Mar. 27, 1911.</i>					Orange.....	123	.24	.033	.....
Oatmeal.....	20	.50	.093	.....	Cream.....	180	.67	.137	.....
Egg.....	56	1.15	.133	.....	Bread.....	220	3.52	.192	.....
Butter.....	10	.01	.002	.....	Jelly (currant and	.....	.....	.....	.....
Orange.....	152	.29	.041	.....	raspberry).....	30	.01	.002	.....
Cream.....	180	.70	.137	.....	Veal.....	160	5.81	.387	.....
Bread.....	220	3.59	.204	.....	Peas.....	150	1.11	.125	.0156
Jelly (currant and	.....	.....	.....	.....	String beans.....	100	.27	.027	.....
raspberry).....	30	.01	.002	.....	Boiled potato.....	160	.46	.110	.....
Lamb.....	160	6.05	.342	.....	Peaches.....	300	.33	.053	.....
Peas.....	150	1.08	.128	.0162	Peach juice.....	100	.06	.014	.....
Beets.....	100	.36	.054	.....	Grape juice (c.c.)..	500	.20	.034	.....
Mashed potato.....	160	.51	.105	.....	Carbonated water	.....	.....	.....	.....
Rice pudding.....	300	1.89	.312	.....	(c.c.).....	500	.....	.....	.....
Grape juice (c.c.)..	500	.20	.034	.....	Water (c.c.).....	100	.....	.....	.....
Carbonated water	.....	.....	.....	.....	Sugar.....	121	.....	.....	.....
(c.c.).....	500	.....	.....	.....	Total.....	2,820	14.11	1.255	.0156
Water (c.c.).....	100	.....	.....	.....		
Sugar.....	116.5	.....	.....	.....	<i>Mar. 31, 1911.</i>				
Total.....	2,760	16.34	1.587	.0162	Oatmeal.....	20	.50	.093	.....
<i>Mar. 28, 1911.</i>					Egg.....	51	1.05	.121	.....
Cream of wheat....	20	.40	.022	.....	Butter.....	10	.01	.002	.....
Egg.....	51	1.05	.121	.....	Orange.....	136	.26	.037	.....
Butter.....	10	.01	.002	.....	Cream.....	180	.65	.140	.....
Orange.....	180.5	.34	.049	.....	Bread.....	220	3.43	.206	.....
Cream.....	180	.68	.135	.....	Jelly (grape).....	30	.01	.005	.....
Bread.....	220	3.70	.209	.....	Lamb.....	160	5.78	.336	.....
Jelly (currant and	.....	.....	.....	.....	Peas.....	150	1.14	.127	.0176
raspberry).....	30	.01	.002	.....	Corn.....	100	.36	.066	.....
Beef.....	160	6.30	.339	.....	Mashed potato.....	160	.45	.096	.....
Peas.....	150	1.11	.127	.0173	Cherries.....	311	.40	.062	.....
					Cherry juice.....	100	.07	.016	.....
					Grape juice (c.c.)..	500	.20	.034	.....
					Carbonated water	.....	.....	.....	.....
					(c.c.).....	500	.....	.....	.....

CHART I.—*Diet*—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 31, 1911—Con.</i>					<i>Apr. 4, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Water (c. c.).....	100	.....	.....	.....	Orange.....	182	0.34	0.049	.....
Sugar.....	98	.....	.....	.....	Cream.....	180	.70	.135	.....
Total.....	2,830	14.31	1.341	0.0176	Bread.....	220	3.61	.204	.....
<i>Apr. 1, 1911.</i>					Jelly (quince).....	30	.....	.002	.....
Cream of wheat.....	20	.40	.022	.....	Beef.....	160	6.51	.343	.....
Egg.....	60	1.24	.142	.....	Peas.....	150	1.04	.125	0.0146
Butter.....	10	.01	.002	.....	Lima beans.....	100	1.37	.110	.....
Sliced bananas.....	80	.14	.027	.....	Boiled potato.....	160	.45	.096	.....
Cream.....	180	.68	.132	.....	Strawberries.....	300	.48	.088	.....
Bread.....	220	3.26	.186	.....	Strawberry juice.....	100	.02	.007	.....
Jelly (quince).....	30	.....	.002	.....	Grape juice (c. c.).....	500	.20	.034	.....
Beef.....	160	6.32	.343	.....	Carbonated water	500	.....	.....	.....
Peas.....	150	1.11	.123	.0180	(c. c.).....	100	.....	.....	.....
Boiled potato.....	160	.56	.073	.....	Water (c. c.).....	111	.....	.....	.....
Rice, steamed.....	100	.28	.020	.....	Sugar.....	.....	.....	.....	.....
Pears.....	300	.18	.038	.....	Total.....	2,880	16.30	1.352	.0146
Pear juice.....	100	.03	.010	.....	<i>Apr. 5, 1911.</i>				
Grape juice (c. c.).....	500	.20	.034	.....	Oatmeal.....	20	.50	.093	.....
Carbonated water	500	.....	.....	.....	Egg.....	56.5	1.16	.134	.....
(c. c.).....	100	.....	.....	.....	Butter.....	10	.01	.002	.....
Water (c. c.).....	123.5	.....	.....	.....	Sliced bananas.....	80	.15	.021	.....
Sugar.....	.....	.....	.....	.....	Cream.....	180	.63	.135	.....
Total.....	2,790	14.41	1.154	.0180	Bread.....	220	3.63	.196	.....
<i>Apr. 2, 1911.</i>					Jelly (currant and	30	.01	.002	.....
Cream of wheat.....	20	.40	.022	.....	raspberry).....	160	6.06	.346	.....
Egg.....	48	.99	.114	.....	Fowl.....	150	1.16	.126	.0164
Butter.....	10	.01	.002	.....	Peas.....	100	.37	.011	.....
Orange.....	205	.39	.055	.....	Hominy.....	160	.27	.069	.....
Cream.....	100	.38	.076	.....	Sweet potato.....	300	.03	.017	.....
Bread.....	220	3.43	.198	.....	Water ice.....	500	.20	.034	.....
Jelly (crab apple).....	30	.....	.002	.....	Grape juice (c. c.).....	500	.....	.....	.....
Fowl.....	160	6.02	.322	.....	Carbonated water	500	.....	.....	.....
Peas.....	150	1.08	.123	.0167	(c. c.).....	100	.....	.....	.....
Celery.....	100	.17	.031	.....	Water (c. c.).....	139	.....	.....	.....
Boiled potato.....	160	.51	.108	.....	Sugar.....	.....	.....	.....	.....
Ice cream.....	300	1.08	.215	.....	Total.....	2,710	14.18	1.186	.0164
Grape juice (c. c.).....	500	.20	.034	.....	<i>Apr. 6, 1911.</i>				
Carbonated water	500	.....	.....	.....	Cream of wheat.....	20	.40	.022	.....
(c. c.).....	100	.....	.....	.....	Egg.....	52	1.07	.123	.....
Water (c. c.).....	119.5	.....	.....	.....	Butter.....	10	.01	.002	.....
Sugar.....	.....	.....	.....	.....	Orange.....	147.5	.29	.040	.....
Total.....	2,720	14.66	1.302	.0167	Cream.....	180	.68	.135	.....
<i>Apr. 3, 1911.</i>					Bread.....	220	3.30	.200	.....
Oatmeal.....	20	.50	.093	.....	Jelly (quince).....	30	.....	.002	.....
Egg.....	57.5	1.18	.136	.....	Veal.....	160	5.87	.367	.....
Butter.....	10	.01	.002	.....	Peas.....	150	1.16	.123	.0182
Orange.....	186.5	.35	.050	.....	String beans.....	100	.27	.025	.....
Cream.....	180	.70	.134	.....	Boiled potato.....	160	.59	.067	.....
Bread.....	220	3.50	.200	.....	Peaches.....	300	.33	.053	.....
Jelly (grape).....	30	.01	.005	.....	Peach juice.....	100	.06	.014	.....
Lamb.....	160	6.46	.370	.....	Grape juice (c. c.).....	500	.20	.034	.....
Peas.....	150	1.17	.127	.0147	Carbonated water	500	.....	.....	.....
Beets.....	100	.23	.043	.....	(c. c.).....	100	.....	.....	.....
Mashed potato.....	160	.46	.094	.....	Water (c. c.).....	89	.....	.....	.....
Rice pudding.....	300	1.95	.325	.....	Sugar.....	.....	.....	.....	.....
Grape juice (c. c.).....	500	.20	.034	.....	Total.....	2,820	14.23	1.207	.0182
Carbonated water	500	.....	.....	.....	<i>Apr. 7, 1911.</i>				
(c. c.).....	100	.....	.....	.....	Oatmeal.....	20	.50	.093	.....
Water (c. c.).....	121	.....	.....	.....	Egg.....	55.5	1.14	.132	.....
Sugar.....	.....	.....	.....	.....	Butter.....	10	.01	.002	.....
Total.....	2,800	16.72	1.613	.0147	Sliced bananas.....	80	.19	.023	.....
<i>Apr. 4, 1911.</i>					Cream.....	180	.63	.137	.....
Cream of wheat.....	20	.40	.022	.....	Bread.....	220	3.81	.208	.....
Egg.....	57	1.17	.135	.....	Jelly (crab apple).....	30	.....	.002	.....
Butter.....	10	.01	.002	.....	Lamb.....	160	5.76	.339	.....
					Peas.....	150	1.11	.130	.0170
					Corn.....	100	.35	.070	.....
					Mashed potato.....	160	.48	.102	.....

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 7, 1911—Con.</i>					<i>Apr. 11, 1911.</i>				
<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Cherries.....	290	0.38	0.057	.....	Cream of wheat....	20	0.40	0.022	.....
Cherry juice.....	100	.07	.016	.....	Egg.....	50.5	1.04	.120	.....
Grape juice (c. c.)..	500	.20	.034	.....	Butter.....	10	.01	.002	.....
Carbonated water					Orange.....	157.5	.30	.043	.....
(c. c.).....	500	.....	.....	.....	Cream.....	180	.68	.132	.....
Water (c. c.).....	100	.....	.....	.....	Bread.....	220	3.61	.209	.....
Sugar.....	134.5	.....	.....	.....	Jelly (grape).....	30	.01	.005	.....
Total.....	2,790	14.63	1.345	0.0170	Beef.....	160	5.92	.336	.....
<i>Apr. 8, 1911.</i>					Peas.....	150	1.08	.119	0.0174
Cream of wheat....	20	.40	.022	.....	Lima beans.....	100	1.27	.102	.....
Egg.....	47.5	.98	.113	.....	Boiled potato.....	160	.61	.095	.....
Butter.....	10	.01	.002	.....	Strawberries.....	300	.51	.088	.....
Orange.....	121	.23	.033	.....	Strawberry juice....	100	.02	.007	.....
Cream.....	180	.68	.134	.....	Grape juice (c. c.)..	500	.20	.034	.....
Bread.....	220	3.48	.196	.....	Carbonated water				
Jelly (crab apple)..	30	.....	.002	.....	(c. c.).....	500	.....	.....	.....
Beef.....	160	6.24	.343	.....	Water (c. c.).....	100	.....	.....	.....
Peas.....	150	1.11	.125	.0158	Sugar.....	86	.....	.....	.....
Boiled potato.....	160	.53	.113	.....	Total.....	2,830	15.66	1.314	.0174
Rice, steamed.....	100	.41	.032	.....	<i>Apr. 12, 1911.</i>				
Peas.....	300	.18	.038	.....	Oatmeal.....	20	.50	.093	.....
Pear juice.....	100	.03	.010	.....	Egg.....	56	1.15	.133	.....
Grape juice (c. c.)..	500	.20	.034	.....	Butter.....	10	.01	.002	.....
Carbonated water					Sliced bananas.....	80	.14	.031	.....
(c. c.).....	500	.....	.....	.....	Cream.....	180	.68	.138	.....
Water (c. c.).....	100	.....	.....	.....	Bread.....	220	3.43	.209	.....
Sugar.....	90	.....	.....	.....	Jelly (crab apple)..	30	.....	.002	.....
Total.....	2,790	14.48	1.197	.0158	Fowl.....	160	5.87	.331	.....
<i>Apr. 9, 1911.</i>					Peas.....	150	1.11	.130	.0176
Cream of wheat....	20	.40	.022	.....	Hominy.....	100	.41	.014	.....
Egg.....	55.5	1.14	.132	.....	Sweet potato.....	160	.26	.082	.....
Butter.....	10	.01	.002	.....	Water ice.....	300	.03	.017	.....
Orange.....	98	.19	.026	.....	Grape juice (c. c.)..	500	.20	.034	.....
Cream.....	100	.40	.076	.....	Carbonated water				
Bread.....	220	3.61	.200	.....	(c. c.).....	500	.....	.....	.....
Jelly (currant)....	30	.01	.002	.....	Water (c. c.).....	100	.....	.....	.....
Fowl.....	160	5.68	.333	.....	Sugar.....	99.5	.....	.....	.....
Peas.....	150	1.11	.120	.0177	Total.....	2,670	13.79	1.216	.0176
Celery.....	100	.12	.036	.....	<i>Apr. 13, 1911.</i>				
Boiled potato.....	160	.38	.102	.....	Cream of wheat....	20	.40	.022	.....
Ice cream.....	300	1.11	.218	.....	Egg.....	53	1.09	.126	.....
Grape juice (c. c.)..	500	.20	.034	.....	Butter.....	10	.01	.002	.....
Carbonated water					Orange.....	128	.25	.035	.....
(c. c.).....	500	.....	.....	.....	Cream.....	180	.67	.137	.....
Water (c. c.).....	180	.....	.....	.....	Bread.....	220	3.70	.202	.....
Sugar.....	85	.....	.....	.....	Jelly (grape).....	30	.01	.005	.....
Total.....	2,670	14.36	1.303	.0177	Veal.....	160	6.10	.363	.....
<i>Apr. 10, 1911.</i>					Peas.....	150	1.13	.120	.0173
Oatmeal.....	20	.50	.093	.....	String beans.....	100	.27	.026	.....
Egg.....	51.5	1.06	.122	.....	Boiled potato.....	160	.37	.080	.....
Butter.....	10	.01	.002	.....	Peaches.....	500	.33	.053	.....
Orange.....	180	.34	.049	.....	Peach juice.....	100	.06	.014	.....
Cream.....	180	.67	.129	.....	Grape juice (c. c.)..	500	.20	.034	.....
Bread.....	220	3.26	.192	.....	Carbonated water				
Jelly (crab apple)..	30	.....	.002	.....	(c. c.).....	500	.....	.....	.....
Lamb.....	160	5.97	.343	.....	Water (c. c.).....	100	.....	.....	.....
Peas.....	150	1.13	.118	.0156	Sugar.....	110.5	.....	.....	.....
Beets.....	100	.33	.045	.....	Total.....	2,820	14.59	1.219	.0173
Mashed potato.....	160	.53	.096	.....	<i>Apr. 14, 1911.</i>				
Rice pudding.....	300	1.80	.320	.....	Oatmeal.....	20	.50	.093	.....
Grape juice (c. c.)..	500	.20	.034	.....	Egg.....	50.5	1.04	.120	.....
Carbonated water					Butter.....	10	.01	.002	.....
(c. c.).....	500	.....	.....	.....	Sliced bananas.....	80	.15	.023	.....
Water (c. c.).....	100	.....	.....	.....	Cream.....	180	.77	.143	.....
Sugar.....	147.5	.....	.....	.....	Bread.....	220	3.59	.206	.....
Total.....	2,810	15.80	1.545	.0161	Jelly (crab apple)..	30	.....	.002	.....
					Lamb.....	160	5.33	.331	.....
					Peas.....	150	1.13	.125	.0164

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 14, 1911—Con.</i>					<i>Apr. 18, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Corn.....	100	0.40	0.065	.....	Cream of wheat....	20	0.40	0.022	.....
Mashed potato.....	160	.50	.094	.....	Egg.....	59	1.22	.140	.....
Cherries.....	299	.39	.059	.....	Butter.....	10	.01	.002	.....
Cherry juice.....	100	.07	.016	.....	Orange.....	159	.30	.043	.....
Grape juice (c. c.)..	500	.20	.034	.....	Cream.....	180	.67	.137	.....
Carbonated water					Bread.....	220	3.56	.211	.....
(c. c.).....	500	.....	.....	.....	Jelly (currant)....	30	.01	.002	.....
Water (c. c.).....	100	.....	.....	.....	Beef.....	160	5.84	.343	.....
Sugar.....	84.5	.....	.....	.....	Peas.....	150	.98	.125	0.0164
Total.....	2,750	14.08	1.313	0.0164	Lima beans.....	100	1.32	.113	.....
<i>Apr. 15, 1911.</i>					Boiled potato.....	160	.62	.076	.....
Cream of wheat....	20	.40	.022	.....	Strawberries.....	300	.63	.088	.....
Egg.....	51	1.05	.121	.....	Strawberry juice..	100	.02	.007	.....
Butter.....	10	.01	.002	.....	Grape juice (c. c.)..	500	.20	.034	.....
Orange.....	177	.37	.053	.....	Carbonated water				
Cream.....	180	.70	.137	.....	(c. c.).....	500	.....	.....	.....
Bread.....	220	3.61	.209	.....	Water (c. c.).....	100	.....	.....	.....
Jelly (grape).....	30	.01	.005	.....	Sugar.....	102	.....	.....	.....
Beef.....	160	6.40	.357	.....	Total.....	2,850	15.78	1.343	.0164
Peas.....	150	1.11	.127	.0140	<i>Apr. 19, 1911.</i>				
Boiled potato.....	160	.46	.094	.....	Oatmeal.....	20	.50	.093	.....
Rice, steamed.....	100	.36	.027	.....	Egg.....	57	1.17	.135	.....
Peas.....	300	.18	.038	.....	Butter.....	10	.01	.002	.....
Pear juice.....	100	.03	.010	.....	Sliced bananas....	80	.14	.023	.....
Grape juice (c. c.)..	500	.20	.034	.....	Cream.....	180	.70	.140	.....
Carbonated water					Bread.....	220	3.45	.196	.....
(c. c.).....	500	.....	.....	.....	Jelly (crab apple)..	30	.....	.002	.....
Water (c. c.).....	100	.....	.....	.....	Fowl.....	160	5.73	.343	.....
Sugar.....	79	.....	.....	.....	Peas.....	150	.83	.128	.0159
Total.....	2,860	14.89	1.236	.0140	Hominy.....	100	.43	.013	.....
<i>Apr. 16, 1911.</i>					Sweet potato.....	160	.35	.096	.....
Cream of wheat....	20	.40	.022	.....	Water ice.....	300	.03	.017	.....
Egg.....	59	1.22	.140	.....	Grape juice (c. c.)..	500	.20	.034	.....
Butter.....	10	.01	.002	.....	Carbonated water				
Orange.....	177	.33	.048	.....	(c. c.).....	500	.....	.....	.....
Cream.....	100	.35	.076	.....	Water (c. c.).....	100	.....	.....	.....
Bread.....	220	3.54	.215	.....	Sugar.....	100	.....	.....	.....
Jelly (crab apple)..	30	.....	.002	.....	Total.....	2,670	13.54	1.222	.0159
Fowl.....	160	5.92	.339	.....	<i>Apr. 20, 1911.</i>				
Peas.....	150	1.10	.130	.0152	Cream of wheat....	20	.40	.022	.....
Celery.....	100	.15	.031	.....	Egg.....	55	1.13	.130	.....
Boiled potato.....	160	.38	.081	.....	Butter.....	10	.01	.002	.....
Ice cream.....	300	1.08	.223	.....	Orange.....	170	.32	.046	.....
Grape juice (c. c.)..	500	.20	.034	.....	Cream.....	180	.65	.131	.....
Carbonated water					Bread.....	220	3.39	.206	.....
(c. c.).....	500	.....	.....	.....	Jelly (grape).....	30	.01	.005	.....
Water (c. c.).....	100	.....	.....	.....	Veal.....	160	5.66	.384	.....
Sugar.....	79	.....	.....	.....	Peas.....	150	.86	.125	.0119
Total.....	2,670	14.68	1.343	.0152	String beans.....	100	.30	.034	.....
<i>Apr. 17, 1911.</i>					Boiled potato.....	160	.38	.098	.....
Oatmeal.....	20	.50	.093	.....	Peaches.....	300	.33	.053	.....
Egg.....	48.5	1.00	.115	.....	Peach juice.....	100	.06	.014	.....
Butter.....	10	.01	.002	.....	Grape juice (c. c.)..	500	.20	.034	.....
Orange.....	173.5	.33	.047	.....	Carbonated water				
Cream.....	180	.68	.135	.....	(c. c.).....	500	.....	.....	.....
Bread.....	220	3.41	.202	.....	Water (c. c.).....	100	.....	.....	.....
Jelly (quince).....	30	.....	.002	.....	Sugar.....	86	.....	.....	.....
Lamb.....	160	6.51	.378	.....	Total.....	2,840	13.70	1.284	.0119
Peas.....	150	1.11	.123	.0143	<i>Apr. 21, 1911.</i>				
Beets.....	100	.30	.067	.....	Oatmeal.....	20	.50	.093	.....
Mashed potato.....	160	.59	.116	.....	Egg.....	59.5	1.23	.141	.....
Rice pudding.....	300	1.65	.330	.....	Butter.....	10	.01	.002	.....
Grape juice (c. c.)..	500	.20	.034	.....	Sliced bananas....	80	.16	.018	.....
Carbonated water					Cream.....	180	.61	.132	.....
(c. c.).....	500	.....	.....	.....	Bread.....	220	3.48	.211	.....
Water (c. c.).....	100	.....	.....	.....	Jelly (crab apple)..	30	.....	.002	.....
Sugar.....	138	.....	.....	.....	Lamb.....	160	5.63	.357	.....
Total.....	2,790	16.29	1.644	.0143	Peas.....	150	1.11	.126	.0117
					Corn.....	100	.40	.071	.....
					Potato.....	160	.42	.090	.....

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 21, 1911—Con.</i>					<i>Apr. 25, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cherries.....	311	0.40	0.062	.....	Cream of wheat....	20	0.40	0.022	.....
Cherry juice.....	100	.07	.016	.....	Egg.....	58	1.19	.137	.....
Grape juice (c.c.)..	500	.20	.034	.....	Butter.....	10	.01	.002	.....
Carbonated water	.....	.....	.....	.....	Orange.....	170	.32	.046	.....
(c.c.).....	500	.....	.....	.....	Cream.....	180	.67	.134	.....
Water (c.c.).....	100	.....	.....	.....	Bread.....	220	3.61	.213	.....
Sugar.....	89	.....	.....	.....	Jelly (crab apple)..	30	.....	.002	.....
Total.....	2,770	14.22	1.355	0.0117	Beef.....	160	5.68	.351	.....
<i>Apr. 22, 1911.</i>					Peas.....	150	1.13	.123	0.0129
Cream of wheat....	20	.40	.022	.....	Lima beans.....	100	1.28	.112	.....
Egg.....	48	.99	.114	.....	Boiled potato.....	160	.46	.101	.....
Butter.....	10	.01	.002	.....	Strawberries.....	300	.63	.088	.....
Orange.....	165	.31	.045	.....	Strawberry juice..	100	.02	.007	.....
Cream.....	180	.59	.132	.....	Grape juice (c.c.)..	500	.20	.034	.....
Bread.....	220	3.52	.209	.....	Carbonated water	.....	.....	.....	.....
Jelly (currant)....	30	.01	.002	.....	(c.c.).....	500	.....	.....	.....
Beef.....	160	6.22	.336	.....	Water (c.c.).....	100	.....	.....	.....
Peas.....	150	1.11	.119	.0122	Sugar.....	98	.....	.....	.....
Boiled potato.....	160	.40	.096	.....	Total.....	2,860	15.60	1.372	.0129
Rice, steamed.....	100	.34	.030	.....	<i>Apr. 26, 1911.</i>				
Pears.....	300	.18	.038	.....	Oatmeal.....	20	.50	.093	.....
Pear juice.....	100	.03	.010	.....	Egg.....	56.5	1.16	.134	.....
Grape juice (c.c.)..	500	.20	.034	.....	Butter.....	10	.01	.002	.....
Carbonated water	.....	.....	.....	.....	Sliced bananas.....	80	.15	.027	.....
(c.c.).....	500	.....	.....	.....	Cream.....	180	.70	.138	.....
Water (c.c.).....	100	.....	.....	.....	Bread.....	220	3.32	.206	.....
Sugar.....	81	.....	.....	.....	Jelly (grape).....	30	.01	.005	.....
Total.....	2,820	4.31	1.189	.0122	Fowl.....	160	5.84	.346	.....
<i>Apr. 23, 1911.</i>					Peas.....	150	1.14	.127	.0128
Cream of wheat....	20	.40	.022	.....	Hominy.....	100	.38	.014	.....
Egg.....	58	1.19	.137	.....	Sweet potato.....	160	.48	.091	.....
Butter.....	10	.01	.002	.....	Water ice.....	300	.03	.017	.....
Orange.....	151	.29	.041	.....	Grape juice (c.c.)..	500	.20	.034	.....
Cream.....	100	.36	.073	.....	Carbonated water	.....	.....	.....	.....
Bread.....	220	3.48	.202	.....	(c.c.).....	500	.....	.....	.....
Jelly (quince)....	30	.....	.002	.....	Water (c.c.).....	100	.....	.....	.....
Fowl.....	160	5.74	.331	.....	Sugar.....	63	.....	.....	.....
Peas.....	150	1.07	.119	.0102	Total.....	2,630	13.92	1.234	.0128
Celery.....	100	.15	.028	.....	<i>Apr. 27, 1911.</i>				
Boiled potato.....	160	.45	.080	.....	Cream of wheat....	20	.40	.022	.....
Ice cream.....	300	1.08	.210	.....	Egg.....	51	1.05	.121	.....
Grape juice (c.c.)..	500	.20	.034	.....	Butter.....	10	.01	.002	.....
Carbonated water	.....	.....	.....	.....	Orange.....	197	.38	.053	.....
(c.c.).....	500	.....	.....	.....	Cream.....	180	.67	.137	.....
Water (c.c.).....	100	.....	.....	.....	Bread.....	220	3.41	.217	.....
Sugar.....	55	.....	.....	.....	Jelly (crab apple)..	30	.....	.002	.....
Total.....	2,610	14.42	1.281	.0102	Veal.....	160	5.94	.378	.....
<i>Apr. 24, 1911.</i>					Peas.....	150	1.11	.123	.0144
Oatmeal.....	20	.50	.093	.....	String beans.....	100	.30	.031	.....
Egg.....	53	1.09	.126	.....	Boiled potato.....	160	.42	.087	.....
Butter.....	10	.01	.002	.....	Peaches.....	300	.33	.053	.....
Orange.....	150	.29	.041	.....	Peach juice.....	100	.06	.014	.....
Cream.....	180	.68	.138	.....	Grape juice (c.c.)..	500	.20	.034	.....
Bread.....	220	3.17	.203	.....	Carbonated water	.....	.....	.....	.....
Jelly (currant)....	30	.01	.002	.....	(c.c.).....	500	.....	.....	.....
Lamb.....	160	5.62	.346	.....	Water (c.c.).....	100	.....	.....	.....
Peas.....	150	1.17	.125	.0125	Sugar.....	85	.....	.....	.....
Beets.....	100	.19	.061	.....	Total.....	2,860	14.28	1.274	.0144
Mashed potato.....	160	.48	.092	.....	<i>Apr. 28, 1911.</i>				
Rice pudding.....	500	1.86	.315	.....	Oatmeal.....	20	.50	.093	.....
Grape juice (c.c.)..	300	.20	.034	.....	Egg.....	58.5	1.21	.139	.....
Carbonated water	.....	.....	.....	.....	Butter.....	10	.01	.002	.....
(c.c.).....	500	.....	.....	.....	Sliced bananas.....	80	.18	.021	.....
Water (c.c.).....	100	.....	.....	.....	Cream.....	180	.70	.143	.....
Sugar.....	112	.....	.....	.....	Bread.....	220	3.52	.213	.....
Total.....	2,750	15.27	1.583	.0125	Jelly (crab apple)..	30	.....	.002	.....
					Lamb.....	160	5.98	.346	.....
					Peas.....	150	1.19	.131	.0089

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 28, 1911—Con.</i>					<i>May 2, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Corn.....	100	0.43	0.070	.....	Cream of wheat.....	20	0.40	0.022	.....
Mashed potato.....	160	.53	.096	.....	Egg.....	58	1.19	.137	.....
Cherries.....	309	.40	.061	.....	Butter.....	10	.01	.002	.....
Cherry juice.....	100	.07	.016	.....	Orange.....	197	.37	.053	.....
Grape juice (c. c.).....	500	.20	.034	.....	Cream.....	180	.77	.145	.....
Carbonated water					Bread.....	220	3.56	.213	.....
(c. c.).....	500	.....	.....	.....	Jelly (grape).....	30	.01	.005	.....
Water (c. c.).....	100	.....	.....	.....	Beef.....	160	5.89	.336	.....
Sugar.....	113	.....	.....	.....	Peas.....	150	1.13	.126	0.0138
Total.....	2,790	14.92	1.367	0.0089	Lima beans.....	100	.99	.088	.....
<i>Apr. 29, 1911.</i>					Boiled potato.....	160	.42	.090	.....
Cream of wheat.....	20	.40	.022	.....	Strawberries.....	300	.45	.088	.....
Egg.....	67	1.38	.159	.....	Strawberry juice.....	100	.02	.007	.....
Butter.....	10	.01	.002	.....	Grape juice (c. c.).....	500	.20	.034	.....
Orange.....	192	.36	.052	.....	Carbonated water				
Cream.....	180	.67	.134	.....	(c. c.).....	500	.....	.....	.....
Bread.....	220	3.59	.211	.....	Water (c. c.).....	100	.....	.....	.....
Jelly (currant).....	30	.01	.002	.....	Sugar.....	110	.....	.....	.....
Beef.....	160	6.16	.331	.....	Total.....	2,900	15.41	1.346	.0138
Peas.....	150	1.23	.132	.0138	<i>May 3, 1911.</i>				
Boiled potato.....	160	.42	.091	.....	Oatmeal.....	20	.50	.093	.....
Rice (steamed).....	100	.32	.025	.....	Egg.....	49.5	1.02	.117	.....
Pears.....	300	.18	.038	.....	Butter.....	10	.01	.002	.....
Pear juice.....	100	.03	.010	.....	Sliced bananas.....	80	.15	.031	.....
Grape juice (c. c.).....	500	.20	.034	.....	Cream.....	180	.68	.137	.....
Carbonated water					Bread.....	220	3.74	.206	.....
(c. c.).....	500	.....	.....	.....	Jelly (crab apple).....	30	.....	.002	.....
Water (c. c.).....	100	.....	.....	.....	Fowl.....	160	5.79	.346	.....
Sugar.....	97	.....	.....	.....	Peas.....	150	1.07	.093	.0119
Total.....	2,890	14.96	1.243	.0138	String beans.....	150	.44	.055	.0074
<i>Apr. 30, 1911.</i>					Sweet potato.....	160	.29	.067	.....
Cream of wheat.....	20	.40	.022	.....	Water ice.....	300	.03	.017	.....
Egg.....	59.5	1.23	.141	.....	Grape juice (c. c.).....	500	.20	.034	.....
Butter.....	10	.01	.002	.....	Carbonated water				
Orange.....	160	.30	.043	.....	(c. c.).....	500	.....	.....	.....
Cream.....	100	.38	.077	.....	Water (c. c.).....	100	.....	.....	.....
Bread.....	220	3.56	.209	.....	Sugar.....	90	.....	.....	.....
Jelly (crab apple).....	30	.....	.002	.....	Total.....	2,700	13.92	1.200	.0193
Fowl.....	160	5.95	.339	.....	<i>May 4, 1911.</i>				
Peas.....	150	1.10	.123	.0132	Cream of wheat.....	20	.40	.022	.....
Celery.....	100	.12	.027	.....	Egg.....	51	1.05	.121	.....
Boiled potato.....	160	.53	.092	.....	Butter.....	10	.01	.002	.....
Ice cream.....	300	1.11	.210	.....	Orange.....	191	.36	.052	.....
Grape juice (c. c.).....	500	.20	.034	.....	Cream.....	180	.68	.131	.....
Carbonated water					Bread.....	220	3.26	.200	.....
(c. c.).....	500	.....	.....	.....	Jelly (currant).....	30	.01	.002	.....
Water (c. c.).....	100	.....	.....	.....	Veal.....	160	5.95	.387	.....
Sugar.....	83	.....	.....	.....	Peas.....	150	1.07	.090	.0123
Total.....	2,650	14.89	1.321	.0132	String beans.....	150	.42	.060	.0059
<i>May 1, 1911.</i>					Boiled potato.....	160	.43	.088	.....
Oatmeal.....	20	.50	.093	.....	Peaches.....	300	.33	.053	.....
Egg.....	48	.99	.114	.....	Peach juice.....	100	.06	.014	.....
Butter.....	10	.01	.002	.....	Grape juice (c. c.).....	500	.20	.034	.....
Orange.....	171	.32	.046	.....	Carbonated water				
Cream.....	180	.67	.140	.....	(c. c.).....	500	.....	.....	.....
Bread.....	220	3.37	.217	.....	Water (c. c.).....	500	.....	.....	.....
Jelly (currant).....	30	.01	.002	.....	Sugar.....	80	.....	.....	.....
Lamb.....	160	5.76	.357	.....	Total.....	2,800	14.23	1.256	.0182
Peas.....	150	1.10	.126	.0111	<i>May 5, 1911.</i>				
Beets.....	100	.28	.052	.....	Oatmeal.....	20	.50	.093	.....
Mashed potato.....	160	.50	.090	.....	Egg.....	55	1.13	.130	.....
Rice pudding.....	300	2.31	.330	.....	Butter.....	10	.01	.002	.....
Grape juice (c. c.).....	500	.20	.034	.....	Sliced bananas.....	80	.16	.022	.....
Carbonated water					Cream.....	180	.72	.137	.....
(c. c.).....	500	.....	.....	.....	Bread.....	220	3.87	.208	.....
Water (c. c.).....	500	.....	.....	.....	Jelly (crab apple).....	30	.....	.002	.....
Sugar.....	113	.....	.....	.....	Lamb.....	160	5.79	.360	.....
Total.....	3,160	16.02	1.603	.0111	Peas.....	150	1.10	.093	.0135
					String beans.....	150	.44	.059	.0071
					Mashed potato.....	160	.53	.092	.....
					Peaches.....	300	.33	.053	.....

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 5, 1911—Con.</i>					<i>May 9, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Peach juice.....	100	0.06	0.014	.....	Butter.....	10	0.01	0.002	.....
Grape juice (c. c.)..	500	.20	.034	.....	Orange.....	135	.26	.036	.....
Carbonated water	.....	.....	.....	.....	Cream.....	180	.67	.135	.....
(c. c.).....	500	.....	.....	.....	Bread.....	220	3.56	.221	.....
Sugar.....	98	.....	.....	.....	Jelly (currant)....	30	.01	.002	.....
Total.....	2,710	14.84	1.299	0.0206	Beef.....	160	6.32	.336	.....
<i>May 6, 1911.</i>					Peas.....	150	1.08	.102	0.0138
Cream of wheat.....	20	.40	.022	.....	String beans.....	150	.42	.056	.0060
Egg.....	56.5	1.16	.134	.....	Boiled potato.....	160	.50	.113	.....
Butter.....	10	.01	.002	.....	Strawberries.....	300	.54	.088	.....
Orange.....	170	.32	.046	.....	Strawberry juice...	100	.02	.007	.....
Cream.....	180	.76	.145	.....	Grape juice (c. c.)..	500	.20	.034	.....
Bread.....	220	3.65	.198	.....	Carbonated water	500	.....	.....	.....
Jelly (grape).....	30	.01	.005	.....	(c. c.).....	75	.....	.....	.....
Beef.....	160	6.11	.346	.....	Total.....	2,750	15.12	1.284	.0198
Peas.....	150	.95	.094	.0125	<i>May 10, 1911.</i>				
String beans.....	150	.48	.063	.0074	Oatmeal.....	20	.50	.093	.....
Boiled potato.....	160	.62	.108	.....	Egg.....	54	1.11	.128	.....
Peas.....	300	.18	.038	.....	Butter.....	10	.01	.002	.....
Pear juice.....	100	.03	.010	.....	Sliced bananas.....	80	.14	.021	.....
Grape juice (c. c.)..	500	.20	.034	.....	Cream.....	180	.70	.140	.....
Carbonated water	.....	.....	.....	.....	Bread.....	220	3.52	.215	.....
(c. c.).....	500	.....	.....	.....	Jelly (currant)....	30	.01	.002	.....
Water (c. c.).....	100	.....	.....	.....	Fowl.....	160	5.89	.331	.....
Sugar.....	65	.....	.....	.....	Peas.....	150	1.05	.088	.0101
Total.....	2,870	14.88	1.245	.0199	String beans.....	150	.45	.059	.0074
<i>May 7, 1911.</i>					Sweet potato.....	160	.53	.088	.....
Cream of wheat.....	20	.40	.022	.....	Water ice.....	300	.03	.017	.....
Egg.....	50.5	1.04	.120	.....	Grape juice (c. c.)..	500	.20	.034	.....
Butter.....	10	.01	.002	.....	Carbonated water	500	.....	.....	.....
Orange.....	185.5	.35	.050	.....	(c. c.).....	95	.....	.....	.....
Cream.....	100	.40	.080	.....	Total.....	2,610	14.14	1.218	.0175
Bread.....	220	3.67	.194	.....	<i>May 11, 1911.</i>				
Jelly (grape).....	30	.01	.005	.....	Cream of wheat.....	20	.40	.022	.....
Fowl.....	160	6.45	.343	.....	Egg.....	57.5	1.18	.136	.....
Peas.....	150	1.05	.093	.0116	Butter.....	10	.01	.002	.....
String beans.....	150	.47	.059	.0063	Orange.....	176	.33	.047	.....
Boiled potato.....	160	.48	.102	.....	Cream.....	180	.67	.137	.....
Ice cream.....	300	1.02	.202	.....	Bread.....	220	3.50	.211	.....
Grape juice (c. c.)..	500	.20	.034	.....	Jelly (quince)....	30	.....	.002	.....
Carbonated water	.....	.....	.....	.....	Veal.....	160	6.32	.378	.....
(c. c.).....	500	.....	.....	.....	Peas.....	150	1.05	.094	.0117
Sugar.....	42	.....	.....	.....	String beans.....	150	.42	.060	.0072
Total.....	2,580	15.55	1.306	.0179	Boiled potato.....	160	.50	.091	.....
<i>May 8, 1911.</i>					Peaches.....	300	.33	.053	.....
Oatmeal.....	20	.50	.093	.....	Peach juice.....	100	.06	.014	.....
Egg.....	51	1.05	.121	.....	Grape juice (c. c.)..	500	.20	.034	.....
Butter.....	10	.01	.002	.....	Carbonated water	.....	.....	.....	.....
Orange.....	237	.43	.064	.....	(c. c.).....	500	.....	.....	.....
Cream.....	180	.67	.132	.....	Water (c. c.).....	500	.....	.....	.....
Bread.....	220	3.61	.221	.....	Sugar.....	86	.....	.....	.....
Jelly (grape).....	30	.01	.005	.....	Total.....	3,300	14.97	1.281	.0189
Lamb.....	160	5.94	.339	.....	<i>May 12, 1911.</i>				
Peas.....	150	.96	.090	.0110	Oatmeal.....	20	.50	.093	.....
String beans.....	150	.48	.077	.0072	Egg.....	54	1.11	.128	.....
Mashed potato.....	160	.48	.103	.....	Butter.....	10	.01	.002	.....
Rice pudding.....	300	1.95	.322	.....	Sliced bananas.....	80	.11	.024	.....
Grape juice (c. c.)..	500	.20	.034	.....	Cream.....	180	.65	.135	.....
Carbonated water	.....	.....	.....	.....	Bread.....	220	3.54	.221	.....
(c. c.).....	500	.....	.....	.....	Jelly (quince)....	30	.....	.002	.....
Sugar.....	117	.....	.....	.....	Lamb.....	160	6.19	.354	.....
Total.....	2,790	16.29	1.603	.0182	Peas.....	150	1.11	.092	.0146
<i>May 9, 1911.</i>					String beans.....	150	.45	.059	.0068
Cream of wheat.....	20	.40	.022	.....	Mashed potato.....	160	.51	.113	.....
Egg.....	55	1.13	.130	.....	Peaches.....	300	.33	.053	.....
					Peach juice.....	100	.06	.014

CHART I.—*Diet*—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>May 12, 1911—Con.</i>					<i>May 16, 1911—Con.</i>				
Grape juice (c. c.)..	500	0.20	0.034	.....	Bread.....	220	3.45	0.215	.....
Carbonated water					Jelly (currant).....	30	.01	.002	.....
(c. c.).....	500	.....	.....	.....	Beef.....	160	6.18	.336	.....
Water (c. c.).....	500	.....	.....	.....	Peas.....	150	1.05	.096	0.0135
Sugar.....	94	.....	.....	.....	String beans.....	150	.44	.060	.0075
Total.....	3,210	14.77	1.324	0.0214	Boiled potato.....	160	.38	.113	.....
<i>May 13, 1911.</i>					Strawberries.....	380	.66	.088	.....
Cream of wheat.....	20	.40	.022	.....	Strawberry juice.....	100	.02	.007	.....
Egg.....	49	1.01	.116	.....	Carbonated water				
Butter.....	10	.01	.002	.....	(c. c.).....	1,000	.....	.....	.....
Orange.....	208	.39	.056	.....	Sugar.....	20	.....	.....	.....
Cream.....	180	.59	.124	.....	Total.....	2,700	14.66	1.246	.0210
Bread.....	220	3.52	.213	.....	<i>May 17, 1911.</i>				
Jelly (grape).....	30	.01	.005	.....	Oatmeal.....	20	.50	.093	.....
Beef.....	160	6.26	.331	.....	Egg.....	52	1.07	.123	.....
Peas.....	150	1.08	.098	.0123	Butter.....	10	.01	.002	.....
String beans.....	150	.44	.058	.0078	Sliced bananas.....	80	.17	.026	.....
Boiled potato.....	160	.48	.103	.....	Cream.....	180	.68	.138	.....
Pears.....	300	.18	.038	.....	Bread.....	220	3.48	.213	.....
Pear juice.....	100	.03	.010	.....	Jelly (currant).....	30	.01	.002	.....
Grape juice (c. c.).....	500	.20	.034	.....	Fowl.....	160	5.65	.322	.....
Carbonated water					Peas.....	150	.84	.094	.....
(c. c.).....	1,000	.....	.....	.....	String beans.....	150	.45	.064	.....
Sugar.....	92	.....	.....	.....	Sweet potato.....	160	.40	.076	.....
Total.....	3,330	14.60	1.210	.0201	Water ice.....	300	.03	.017	.....
<i>May 14, 1911.</i>					Grape juice (c. c.).....	500	.20	.034	.....
Cream of wheat.....	20	.40	.022	.....	Carbonated water				
Egg.....	46	.95	.109	.....	(c. c.).....	500	.....	.....	.....
Butter.....	10	.01	.002	.....	Sugar.....	107	.....	.....	.....
Orange.....	122	.23	.033	.....	Total.....	2,620	13.49	1.204	.....
Cream.....	100	.38	.075	.....	<i>May 18, 1911.</i>				
Bread.....	220	3.59	.219	.....	Cream of wheat.....	20	.40	.022	.....
Jelly (grape).....	30	.01	.005	.....	Egg.....	55.5	1.14	.132	.....
Fowl.....	160	5.66	.331	.....	Butter.....	10	.01	.002	.....
Peas.....	150	1.16	.092	.0135	Orange.....	148	.29	.040	.....
String beans.....	150	.47	.063	.0072	Cream.....	180	.68	.143	.....
Boiled potato.....	160	.51	.105	.....	Bread.....	220	3.56	.221	.....
Ice cream.....	300	1.11	.225	.....	Jelly (crab apple).....	30	.....	.002	.....
Grape juice (c. c.).....	500	.20	.034	.....	Veal.....	160	6.32	.375	.....
Carbonated water					Peas.....	150	.83	.093	.....
(c. c.).....	500	.....	.....	.....	String beans.....	150	.44	.052	.....
Sugar.....	169	.....	.....	.....	Boiled potato.....	160	.35	.082	.....
Total.....	2,580	14.68	1.315	.0207	Peaches.....	300	.33	.038	.....
<i>May 15, 1911.</i>					Peach juice.....	100	.06	.014	.....
Oatmeal.....	20	.50	.093	.....	Grape juice (c. c.).....	500	.20	.034	.....
Egg.....	53	1.09	.126	.....	Carbonated water				
Butter.....	10	.01	.002	.....	(c. c.).....	1,000	.....	.....	.....
Orange.....	180	.34	.049	.....	Sugar.....	84	.....	.....	.....
Cream.....	180	.76	.140	.....	Total.....	3,270	14.61	1.250	.....
Bread.....	220	3.43	.211	.....	<i>May 19, 1911.</i>				
Jelly (currant).....	30	.01	.002	.....	Oatmeal.....	20	.50	.093	.....
Lamb.....	160	6.14	.343	.....	Egg.....	57	1.17	.135	.....
Peas.....	150	1.14	.090	.0134	Butter.....	10	.01	.002	.....
String beans.....	150	.48	.067	.0068	Sliced bananas.....	80	.14	.020	.....
Mashed potato.....	160	.50	.094	.....	Cream.....	180	.65	.143	.....
Rice pudding.....	300	1.68	.309	.....	Bread.....	220	3.59	.227	.....
Grape juice (c. c.).....	500	.20	.034	.....	Jelly (currant).....	30	.01	.002	.....
Carbonated water					Lamb.....	160	5.28	.327	.....
(c. c.).....	500	.....	.....	.....	Peas.....	150	.83	.089	.....
Sugar.....	64	.....	.....	.....	String beans.....	150	.42	.062	.....
Total.....	2,680	16.28	1.560	.0202	Mashed potato.....	160	.43	.088	.....
<i>May 16, 1911.</i>					Peaches.....	300	.33	.053	.....
Cream of wheat.....	20	.40	.022	.....	Peach juice.....	100	.06	.014	.....
Egg.....	53	.09	.126	.....	Grape juice (c. c.).....	500	.20	.034	.....
Butter.....	10	.01	.002	.....	Carbonated water				
Orange.....	150	.29	.041	.....	(c. c.).....	1,000	.....	.....	.....
Cream.....	180	.68	.138	.....	Sugar.....	95	.....	.....	.....
					Total.....	3,210	13.62	1.289	.....

CHART I.—Diet—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 20, 1911.</i>					<i>May 23, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat...	20	0.40	0.022	.....	Strawberry juice...	100	0.02	0.007	.....
Egg.....	52.5	1.08	.124	.....	Grape juice (c. c.)...	100	.04	.007	.....
Butter.....	10	.01	.002	.....	Sugar.....	31	.....	.....	.....
Orange.....	172	.32	.046	.....	Total.....	1,870	14.88	1.209	.....
Cream.....	180	.74	.146	.....	<i>May 24, 1911.</i>				
Bread.....	220	3.41	.227	.....	Oatmeal.....	20	.50	.093	.....
Jelly (currant)...	30	.01	.002	.....	Egg.....	57.7	1.19	.137	.....
Beef.....	160	5.89	.357	.....	Butter.....	10	.01	.002	.....
Peas.....	150	.86	.094	.....	Sliced bananas.....	80	.15	.022	.....
String beans.....	150	.42	.067	.....	Cream.....	180	.70	.140	.....
Boiled potato.....	160	.48	.113	.....	Bread.....	220	3.65	.211	.....
Pears.....	300	.18	.038	.....	Jelly (grape).....	30	.01	.005	.....
Pear juice.....	100	.03	.010	.....	Fowl.....	160	5.89	.322	.....
Grape juice (c. c.)...	500	.20	.034	.....	Peas.....	150	.83	.094	.....
Carbonated water	.....	.....	.....	.....	String beans.....	150	.45	.058	.....
(c. c.).....	1,000	.....	.....	.....	Sweet potato.....	160	.38	.081	.....
Sugar.....	97	.....	.....	.....	Water ice.....	300	.03	.017	.....
Total.....	3,300	14.03	1.282	.....	Grape juice (c. c.)...	500	.20	.034	.....
<i>May 21, 1911.</i>					Carbonated water	.....	.....	.....	.....
Cream of wheat....	20	.40	.022	.....	(c. c.).....	500	.....	.....	.....
Egg.....	49.5	1.02	.117	.....	Sugar.....	111	.....	.....	.....
Butter.....	10	.01	.002	.....	Total.....	2,630	13.99	1.216	.....
Orange.....	147	.28	.040	.....	<i>May 25, 1911.</i>				
Cream.....	100	.39	.076	.....	Cream of wheat....	20	.40	.022	.....
Bread.....	220	3.72	.227	.....	Egg.....	48	.99	.114	.....
Jelly (quince)....	30	.....	.002	.....	Butter.....	10	.01	.002	.....
Fowl.....	160	6.18	.336	.....	Orange.....	186	.35	.050	.....
Peas.....	150	.86	.098	.....	Cream.....	180	.70	.140	.....
String beans.....	150	.44	.055	.....	Bread.....	220	3.50	.209	.....
Boiled potato.....	160	.59	.102	.....	Jelly (grape).....	30	.01	.005	.....
Ice cream.....	300	1.08	.218	.....	Veal.....	160	6.50	.374	.....
Grape juice (c. c.)...	500	.20	.034	.....	Peas.....	150	.86	.101	.....
Carbonated water	.....	.....	.....	.....	String beans.....	150	.45	.054	.....
(c. c.).....	500	.....	.....	.....	Potato.....	160	.61	.085	.....
Sugar.....	85	.....	.....	.....	Peaches.....	300	.33	.053	.....
Total.....	2,580	15.17	1.329	.....	Peach juice.....	100	.06	.014	.....
<i>May 22, 1911.</i>					Grape juice (c. c.)...	500	.20	.034	.....
Oatmeal.....	20	.50	.093	.....	Carbonated water	.....	.....	.....	.....
Egg.....	50	1.03	.118	.....	(c. c.).....	1,000	.....	.....	.....
Butter.....	10	.01	.002	.....	Sugar.....	60	.....	.....	.....
Orange.....	185	.35	.050	.....	Total.....	3,270	14.97	1.257	.....
Cream.....	180	.68	.138	.....	<i>May 26, 1911.</i>				
Bread.....	220	3.56	.221	.....	Cream of wheat....	20	.40	.022	.....
Jelly (quince)....	30	.....	.002	.....	Egg.....	49.5	1.02	.117	.....
Lamb.....	160	5.22	.331	.....	Butter.....	10	.01	.002	.....
Peas.....	150	.90	.096	.....	Sliced bananas.....	80	.14	.020	.....
String beans.....	150	.45	.063	.....	Cream.....	180	.68	.137	.....
Mashed potato.....	160	.54	.090	.....	Bread.....	220	3.56	.204	.....
Rice pudding.....	300	1.86	.301	.....	Jelly (quince)....	30	.....	.002	.....
Grape juice (c. c.)...	500	.20	.034	.....	Lamb.....	160	5.79	.346	.....
Carbonated water	.....	.....	.....	.....	Peas.....	150	.89	.097	.....
(c. c.).....	1,000	.....	.....	.....	String beans.....	150	.45	.052	.....
Sugar.....	101	.....	.....	.....	Mashed potato.....	160	.50	.053	.....
Total.....	3,220	15.30	1.539	.....	Peaches.....	300	.33	.053	.....
<i>May 23, 1911.</i>					Peach juice.....	100	.06	.014	.....
Cream of wheat....	20	.40	.022	.....	Grape juice (c. c.)...	500	.20	.034	.....
Egg.....	49.5	1.02	.117	.....	Carbonated water	.....	.....	.....	.....
Butter.....	10	.01	.002	.....	(c. c.).....	1,000	.....	.....	.....
Orange.....	207	.39	.056	.....	Sugar.....	85	.....	.....	.....
Cream.....	180	.67	.140	.....	Total.....	3,200	14.03	1.153	.....
Bread.....	220	3.45	.204	.....	<i>May 27, 1911.</i>				
Jelly (grape).....	30	.01	.005	.....	Oatmeal.....	20	.50	.093	.....
Beef.....	160	6.50	.339	.....	Egg.....	53	1.09	.126	.....
Peas.....	150	.92	.090	.....				
String beans.....	150	.45	.052	.....				
Boiled potato.....	160	.46	.080	.....				
Strawberries.....	300	.54	.088	.....				

CHART I.—*Diet*—Continued.

SUBJECT No. 6—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 27, 1911—Con.</i>					<i>May 29, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Butter.....	10	0.01	0.002	.....	Oatmeal.....	20	0.50	0.093	.....
Orange.....	142	.27	.038	.....	Egg.....	46	.95	.109	.....
Cream.....	180	.67	.134	.....	Butter.....	10	.01	.002	.....
Bread.....	220	3.48	.217	.....	Orange.....	166	.31	.045	.....
Jelly (quince).....	30	.....	.002	.....	Cream.....	180	.68	.135	.....
Beef.....	160	6.64	.339	.....	Bread.....	220	3.43	.208	.....
Peas.....	150	.90	.096	.....	Jelly (currant).....	30	.01	.002	.....
String beans.....	150	.41	.060	.....	Lamb.....	160	6.05	.354	.....
Boiled potato.....	160	.59	.053	.....	Peas.....	150	.81	.101	.....
Pears.....	300	.18	.038	.....	String beans.....	150	.50	.051	.....
Pear juice.....	100	.03	.010	.....	Mashed potato.....	160	.50	.056	.....
Grape juice (c. c.)..	500	.20	.034	.....	Rice pudding.....	300	2.34	.315	.....
Carbonated water (c. c.).....	1,000	.....	.....	.....	Grape juice (c. c.)..	500	.20	.034	.....
Sugar.....	45	.....	.....	.....	Carbonated water (c. c.).....	500	.....	.....	.....
					Sugar.....	113	.....	.....	.....
Total.....	3,220	14.97	1.242	.....	Total.....	2,710	16.29	1.605	.....
<i>May 28, 1911.</i>					<i>May 30, 1911.</i>				
Cream of wheat....	20	.40	.022	.....	Cream of wheat....	20	.40	.022	.....
Egg.....	57	.01	.135	.....	Egg.....	52.5	1.08	.124	.....
Butter.....	10	.....	.002	.....	Butter.....	10	.01	.002	.....
Orange.....	220	.42	.059	.....	Orange.....	146	.28	.039	.....
Cream.....	100	.36	.079	.....	Cream.....	180	.68	.137	.....
Bread.....	220	3.52	.229	.....	Bread.....	220	3.59	.213	.....
Jelly (currant).....	30	.....	.002	.....	Jelly (quince).....	30	.....	.002	.....
Fowl.....	160	5.94	.327	.....	Beef.....	160	6.22	.339	.....
Peas.....	150	.81	.093	.....	Peas.....	150	.78	.097	.....
String beans.....	150	.45	.051	.....	String beans.....	150	.45	.048	.....
Boiled potato.....	160	.64	.061	.....	Boiled potato.....	160	.46	.059	.....
Ice cream.....	300	1.05	.199	.....	Strawberries.....	300	.54	.088	.....
Grape juice (c. c.)..	500	.20	.034	.....	Strawberry juice....	100	.02	.007	.....
Carbonated water (c. c.).....	500	.....	.....	.....	Grape juice (c. c.)..	500	.20	.034	.....
Sugar.....	90	.....	.....	.....	Carbonated water (c. c.).....	500	.....	.....	.....
					Sugar.....	17	.....	.....	.....
Total.....	2,670	14.97	1.293	.....	Total.....	2,700	14.71	1.211	.....

CHART I.—Diet—Continued.

SUBJECT No. 7 (J. F. W.).

Food.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Sunday.
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Cream of wheat.....		25		25		25	25
Oatmeal.....	25		25		25		
Egg.....							
Butter.....	30	30	30	30	30	30	30
Orange.....							
Sliced bananas.....			70		70		
Cream.....	60	150	60	150	150	150	60
Bread.....	180	180	180	180	180	180	180
Jelly.....	25	25	25	25	25	25	25
Beef.....		140				140	
Fowl.....			140				140
Veal.....				140			
Lamb.....	140				140		
Peas.....	150	150	150	150	150	150	150
Beets.....	120						
Lima beans.....		140					
String beans.....				120			
Corn.....					250		
Celery.....							140
Hominy.....			180				
Mashed or boiled potato.....	180	180		180	180	180	180
Sweet potato.....			180			180	
Rice, steamed.....							
Rice pudding.....	300						
Ice cream.....							300
Water ice.....			300				
Peaches.....				350			
Pears.....						350	
Cherries.....					300		
Strawberries.....		200					
Grape juice (c. c.).....							
Carbonated water (c. c.).....							
Water (c. c.).....							

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 1, 1911.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Mar. 3, 1911.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	25	0.63	0.116		Oatmeal.....	25	0.63	0.116	
Egg.....	56.9	1.17	.135		Egg.....	53.1	1.09	.126	
Butter.....	30	.03	.007		Butter.....	30	.03	.007	
Sliced bananas.....	70	.13	.032		Sliced bananas.....	70	.13	.018	
Cream.....	150	.57	.117		Cream.....	150	.62	.054	
Bread.....	180	2.88	.151		Bread.....	180	2.93	.176	
Jelly (grape).....	25	.01	.004		Jelly (grape).....	25	.01	.004	
Fowl.....	140	3.99	.318		Lamb.....	140	4.70	.331	
Peas.....	150	.84	.085		Peas.....	150	.83	.098	
Hominy.....	180	.70	.023		Corn.....	250	.93	.181	
Potato.....	180	.63	.113		Mashed potato.....	180	.63	.123	
Water ice.....	300	.03	.017		Cherries.....	194	.25	.038	
Water (c. c.).....	700				Grape juice (c. c.).....	200	.08	.014	
Total.....	2,190	11.61	1.118		Water (c. c.).....	500			
					Total.....	2,150	12.86	1.286	
<i>Mar. 2, 1911.</i>					<i>Mar. 4, 1911.</i>				
Cream of wheat.....	25	.50	.028		Cream of wheat.....	25	.50	.028	
Egg.....	54.9	1.13	.130		Egg.....	53.1	1.09	.126	
Butter.....	30	.03	.007		Butter.....	30	.03	.007	
Orange.....	153	.30	.041		Orange.....	155	.30	.042	
Cream.....	150	.53	.120		Cream.....	150	.57	.115	
Bread.....	180	2.74	.162		Bread.....	180	2.83	.206	
Jelly (grape).....	25	.01	.004		Jelly (grape).....	25	.01	.004	
Veal.....	140	5.26	.336		Beef.....	140	5.15	.318	
Peas.....	150	.87	.092		Peas.....	150	.89	.118	
String beans.....	120	.29	.036		Boiled potato.....	180	.67	.146	
Boiled potato.....	180	.65	.077		Rice, steamed.....	180	.59	.049	
Peaches.....	300	.33	.053		Pears.....	350	.21	.044	
Grape juice (c. c.).....	200	.08	.014		Grape juice (c. c.).....	200	.08	.014	
Water (c. c.).....	575				Water (c. c.).....	400			
Total.....	2,280	12.72	1.100		Total.....	2,220	12.92	1.217	

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 5, 1911.</i>					<i>Mar. 9, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	25	0.50	0.028	.....	Cream of wheat.....	25	0.50	0.028	.....
Egg.....	50.9	1.05	.121	.....	Egg.....	57.7	1.19	.137	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	128	.25	.035	.....	Orange.....	150	.29	.041	.....
Cream.....	150	.57	.110	.....	Cream.....	150	.59	.111	.....
Bread.....	180	2.90	.178	.....	Bread.....	180	3.01	.176	.....
Jelly (grape).....	25	.01	.004	.....	Jelly (currant and raspberry).....	25	.01	.002	.....
Fowl.....	140	5.43	.328	.....	Veal.....	140	5.00	.339	.....
Peas.....	150	.86	.096	.....	Peas.....	150	.78	.084	.....
Celery.....	140	.24	.039	.....	String beans.....	120	.32	.028	.....
Boiled potato.....	180	.70	.115	.....	Boiled potato.....	180	.68	.115	.....
Ice cream.....	300	1.11	.218	.....	Peaches.....	350	.39	.061	.....
Grape juice (c. c.)..	200	.08	.014	.....	Grape juice (c. c.)..	200	.08	.014	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	550	.....	.....	.....
Total.....	2,200	13.73	1.293	.....	Total.....	2,310	12.87	1.143	.....
<i>Mar. 6, 1911.</i>					<i>Mar. 10, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	55.4	1.14	.131	.....	Egg.....	58.9	1.21	.140	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	143	.28	.039	.....	Sliced bananas.....	70	.15	.018	.....
Cream.....	150	.56	.111	.....	Cream.....	150	.56	.111	.....
Bread.....	180	2.90	.174	.....	Bread.....	180	3.04	.178	.....
Jelly (grape).....	25	.01	.004	.....	Jelly (grape).....	25	.01	.004	.....
Lamb.....	140	4.78	.313	.....	Lamb.....	140	4.66	.308	.....
Peas.....	150	.84	.094	.....	Peas.....	150	.80	.080	.....
Beets.....	120	.31	.092	.....	Corn.....	250	1.05	.170	.....
Potato.....	180	.61	.110	.....	Boiled potato.....	180	.74	.102	.....
Rice pudding.....	300	2.04	.359	.....	Cherries.....	324	.42	.064	.....
Grape juice (c. c.)..	250	.10	.017	.....	Grape juice (c. c.)..	200	.08	.014	.....
Water (c. c.).....	650	.....	.....	.....	Water (c. c.).....	400	.....	.....	.....
Total.....	2,400	14.23	1.567	.....	Total.....	2,180	13.38	1.312	.....
<i>Mar. 7, 1911.</i>					<i>Mar. 11, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	51.9	1.07	.123	.....	Egg.....	58	1.19	.137	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	136	.26	.037	.....	Orange.....	163	.31	.044	.....
Cream.....	150	.59	.114	.....	Cream.....	150	.59	.114	.....
Bread.....	180	2.99	.173	.....	Bread.....	180	3.01	.173	.....
Jelly (currant and raspberry).....	125	.01	.002	.....	Jelly (grape).....	25	.01	.004	.....
Beef.....	140	4.87	.300	.....	Beef.....	140	5.24	.300	.....
Peas.....	150	.84	.089	.....	Peas.....	150	.81	.080	.....
Lima beans.....	140	1.55	.138	.....	Mashed potato.....	180	.68	.116	.....
Boiled potato.....	180	.58	.118	.....	Rice, steamed.....	180	.63	.036	.....
Strawberries.....	200	.36	.058	.....	Pears.....	350	.21	.044	.....
Grape juice (c. c.)..	200	.08	.014	.....	Grape juice (c. c.)..	200	.08	.014	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	400	.....	.....	.....
Total.....	2,110	13.73	1.201	.....	Total.....	2,230	13.29	1.097	.....
<i>Mar. 8, 1911.</i>					<i>Mar. 12, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	52.7	1.09	.125	.....	Egg.....	54.9	1.13	.130	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Sliced bananas.....	70	.14	.020	.....	Orange.....	162	.30	.044	.....
Cream.....	150	.57	.113	.....	Cream.....	150	.54	.107	.....
Bread.....	180	3.02	.185	.....	Bread.....	180	3.02	.179	.....
Jelly (raspberry and currant).....	25	.01	.002	.....	Jelly (grape).....	25	.01	.004	.....
Fowl.....	140	5.49	.312	.....	Fowl.....	140	4.80	.290	.....
Peas.....	150	.87	.093	.....	Peas.....	150	.81	.080	.....
Hominy.....	180	.67	.025	.....	Celery.....	140	.20	.048	.....
Sweet potato.....	180	.40	.075	.....	Boiled potato.....	180	.70	.120	.....
Water ice.....	300	.03	.017	.....	Ice cream.....	300	1.11	.197	.....
Grape juice (c. c.)..	200	.08	.014	.....	Grape juice (c. c.)..	200	.08	.014	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	650	.....	.....	.....
Total.....	2,180	13.03	1.104	.....	Total.....	2,390	13.23	1.248	.....

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 13, 1911.</i>					<i>Mar. 17, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	25	0.63	0.116	.....	Oatmeal.....	25	0.63	0.116	.....
Egg.....	57.5	1.18	.136	.....	Egg.....	61.4	1.26	.145	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	148	.29	.040	.....	Sliced bananas.....	70	.16	.015	.....
Cream.....	150	.56	.111	.....	Cream.....	150	.57	.113	.....
Bread.....	180	2.99	.174	.....	Bread.....	180	2.99	.165	.....
Jelly (grape).....	25	.01	.004	.....	Jelly (apple).....	25	.....	.002	.....
Lamb.....	140	4.66	.290	.....	Lamb.....	140	4.59	.294	.....
Peas.....	150	.81	.083	.....	Peas.....	150	1.11	.130	0.0191
Beets.....	120	.32	.104	.....	Corn.....	250	.83	.155	.....
Mashed potato.....	180	.65	.112	.....	Mashed potato.....	180	.65	.129	.....
Rice pudding.....	300	2.16	.420	.....	Cherries.....	291	.38	.058	.....
Grape juice (c. c.).....	300	.12	.020	.....	Grape juice (c. c.).....	200	.08	.014	.....
Water (c. c.).....	600	.....	.....	.....	Water (c. c.).....	400	.....	.....	.....
Total.....	2,410	14.41	1.617	.....	Total.....	2,150	13.28	1.343	.0191
<i>Mar. 14, 1911.</i>					<i>Mar. 18, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	60	1.24	.142	.....	Egg.....	57.5	1.18	.136	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	154.5	.30	.042	.....	Orange.....	156	.30	.042	.....
Cream.....	150	.57	.113	.....	Cream.....	150	.56	.113	.....
Bread.....	180	2.99	.167	.....	Bread.....	180	2.88	.164	.....
Jelly (currant and raspberry).....	30	.01	.002	.....	Jelly (apple).....	25	.....	.002	.....
Beef.....	140	4.73	.286	.....	Beef.....	140	5.10	.286	.....
Peas.....	150	.81	.084	.....	Peas.....	150	1.04	.119	.0164
Lima beans.....	140	1.74	.143	.....	Boiled potato.....	180	.58	.107	.....
Boiled potato.....	180	.61	.107	.....	Rice, steamed.....	180	.49	.058	.....
Strawberries.....	200	.28	.053	.....	Peas.....	350	.21	.044	.....
Water (c. c.).....	700	.....	.....	.....	Grape juice (c. c.).....	300	.12	.020	.....
Total.....	2,140	13.81	1.179	.....	Water (c. c.).....	500	.....	.....	.....
<i>Mar. 15, 1911.</i>					Total.....	2,420	12.99	1.126	.0164
Oatmeal.....	25	.63	.116	.....	<i>Mar. 19, 1911.</i>				
Egg.....	63.1	1.30	.150	.....	Cream of wheat.....	25	.50	.028	.....
Butter.....	30	.03	.007	.....	Egg.....	60.2	1.24	.143	.....
Sliced bananas.....	70	.13	.026	.....	Butter.....	30	.03	.007	.....
Cream.....	150	.56	.117	.....	Orange.....	132	.25	.036	.....
Bread.....	180	3.11	.171	.....	Cream.....	150	.57	.113	.....
Jelly (currant and raspberry).....	25	.01	.002	.....	Bread.....	180	2.99	.162	.....
Fowl.....	140	4.97	.300	.....	Jelly (currant and raspberry).....	25	.01	.002	.....
Peas.....	150	1.14	.119	0.0171	Fowl.....	140	5.28	.284	.....
Hominy.....	180	.59	.020	.....	Peas.....	150	1.16	.125	.0168
Sweet potato.....	180	.45	.066	.....	Celery.....	140	.27	.039	.....
Water ice.....	350	.04	.019	.....	Boiled potato.....	180	.67	.131	.....
Grape juice (c. c.).....	200	.08	.014	.....	Ice cream.....	300	1.14	.215	.....
Water (c. c.).....	400	.....	.....	.....	Grape juice (c. c.).....	400	.16	.027	.....
Total.....	2,140	13.04	1.127	.0171	Water (c. c.).....	400	.....	.....	.....
<i>Mar. 16, 1911.</i>					Total.....	2,310	14.27	1.342	.0168
Cream of wheat.....	25	.50	.028	.....	<i>Mar. 20, 1911.</i>				
Egg.....	57.9	1.19	.137	.....	Oatmeal.....	25	.63	.116	.....
Butter.....	30	.03	.007	.....	Egg.....	54.6	1.12	.129	.....
Orange.....	157	.30	.042	.....	Butter.....	30	.03	.007	.....
Cream.....	150	.57	.117	.....	Orange.....	141	.27	.038	.....
Bread.....	180	3.01	.167	.....	Cream.....	150	.59	.114	.....
Jelly (currant and raspberry).....	25	.01	.002	.....	Bread.....	180	3.04	.162	.....
Veal.....	140	5.01	.318	.....	Jelly (currant and raspberry).....	25	.01	.002	.....
Peas.....	150	1.11	.119	.0180	Lamb.....	140	4.79	.294	.....
String beans.....	120	.32	.034	.....	Peas.....	150	1.14	.125	.0165
Boiled potato.....	180	.74	.109	.....	Beets.....	120	.50	.076	.....
Peaches.....	350	.39	.061	.....	Mashed potato.....	180	.58	.088	.....
Grape juice (c. c.).....	250	.10	.017	.....	Rice pudding.....	300	2.46	.380	.....
Water (c. c.).....	450	.....	.....	.....	Grape juice (c. c.).....	400	.16	.027	.....
Total.....	2,270	13.28	1.158	.0180	Water (c. c.).....	600	.....	.....	.....
					Total.....	2,500	15.32	1.558	.0165

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 21, 1911.</i>					<i>Mar. 25, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat.....	25	0.50	0.028	.....	Cream of wheat.....	25	0.50	0.028	.....
Egg.....	63.3	1.30	.150	.....	Egg.....	55.8	1.15	.132	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	158.5	.30	.043	.....	Orange.....	167.5	.32	.045	.....
Cream.....	150	.62	.119	.....	Cream.....	150	.59	.110	.....
Bread.....	180	3.02	.163	.....	Bread.....	180	2.83	.165	.....
Jelly (apple).....	25	.01	.002	.....	Jelly (grape).....	25	.01	.004	.....
Beef.....	140	5.50	.300	.....	Beef.....	140	5.57	.297	.....
Peas.....	150	1.14	.123	0.0179	Peas.....	150	1.17	.126	0.0179
Lima beans.....	140	1.78	.141	.....	Boiled potato.....	180	.56	.098	.....
Boiled potato.....	180	.63	.126	.....	Rice, steamed.....	180	.61	.061	.....
Strawberries.....	200	.42	.058	.....	Pears.....	350	.21	.044	.....
Grape juice (c. c.).....	400	.16	.027	.....	Grape juice (c. c.).....	300	.12	.020	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	500	.....	.....	.....
Total.....	2,340	15.41	1.287	.0179	Total.....	2,430	13.67	1.137	.0179
<i>Mar. 22, 1911.</i>					<i>Mar. 26, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	58.8	1.21	.139	.....	Egg.....	52.3	1.08	.124	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Sliced bananas.....	70	.14	.015	.....	Orange.....	138.6	.27	.037	.....
Cream.....	150	.62	.113	.....	Cream.....	150	.59	.111	.....
Bread.....	180	3.08	.160	.....	Bread.....	180	2.90	.171	.....
Jelly (apple).....	25	.01	.002	.....	Jelly (currant and raspberry).....	25	.01	.002	.....
Fowl.....	140	5.40	.274	.....	Fowl.....	140	5.10	.290	.....
Peas.....	150	1.11	.128	.0165	Peas.....	150	1.08	.118	.0183
Hominy.....	180	.68	.020	.....	Celery.....	140	.29	.065	.....
Sweet potato.....	180	.45	.071	.....	Boiled potato.....	180	.74	.091	.....
Water ice.....	300	.03	.017	.....	Ice cream.....	300	1.14	.210	.....
Grape juice (c. c.).....	300	.12	.020	.....	Grape juice (c. c.).....	400	.16	.027	.....
Water (c. c.).....	400	.....	.....	.....	Water (c. c.).....	500	.....	.....	.....
Total.....	2,190	13.51	1.082	.0165	Total.....	2,410	13.89	1.281	.0183
<i>Mar. 23, 1911.</i>					<i>Mar. 27, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	50.5	1.04	.120	.....	Egg.....	54	1.11	.128	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	170.5	.32	.046	.....	Orange.....	160.5	.30	.043	.....
Cream.....	150	.54	.106	.....	Cream.....	150	.59	.114	.....
Bread.....	180	2.93	.167	.....	Bread.....	180	2.93	.167	.....
Jelly (currant and raspberry).....	25	.01	.002	.....	Jelly (currant and raspberry).....	25	.01	.002	.....
Veal.....	140	5.53	.321	.....	Lamb.....	140	5.29	.300	.....
Peas.....	150	1.11	.128	.0147	Peas.....	150	1.08	.128	.0162
String beans.....	120	.31	.031	.....	Beets.....	120	.43	.065	.....
Potato.....	180	.72	.129	.....	Mashed potato.....	180	.58	.118	.....
Peaches.....	350	.39	.061	.....	Rice pudding.....	300	1.89	.312	.....
Grape juice (c. c.).....	400	.16	.027	.....	Grape juice (c. c.).....	300	.12	.020	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	500	.....	.....	.....
Total.....	2,470	13.59	1.173	.0147	Total.....	2,320	14.99	1.520	.0162
<i>Mar. 24, 1911.</i>					<i>Mar. 28, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	55.4	1.14	.131	.....	Egg.....	55.4	1.14	.131	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Sliced bananas.....	70	.12	.017	.....	Orange.....	149.5	.29	.040	.....
Cream.....	150	.59	.111	.....	Cream.....	150	.57	.113	.....
Bread.....	180	2.86	.163	.....	Bread.....	180	3.02	.171	.....
Jelly (currant and raspberry).....	25	.01	.002	.....	Jelly (currant and raspberry).....	25	.01	.002	.....
Lamb.....	140	5.38	.297	.....	Beef.....	140	5.52	.297	.....
Peas.....	150	1.14	.123	.0170	Peas.....	150	1.11	.127	.0173
Corn.....	250	.98	.172	.....	Lima beans.....	140	1.81	.130	.....
Mashed potato.....	180	.65	.118	.....	Boiled potato.....	180	.54	.113	.....
Cherries.....	314	.41	.062	.....	Strawberries.....	200	.28	.058	.....
Grape juice (c. c.).....	200	.08	.014	.....	Grape juice (c. c.).....	400	.16	.027	.....
Water (c. c.).....	400	.....	.....	.....	Water (c. c.).....	600	.....	.....	.....
Total.....	2,170	14.02	1.333	.0170	Total.....	2,430	14.98	1.244	.0173

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 29, 1911.</i>					<i>Apr. 2, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	25	0.63	0.116	.....	Cream of wheat....	25	0.50	0.028	.....
Egg.....	59.7	1.23	.141	.....	Egg.....	52.7	1.09	.125	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Sliced bananas.....	70	.16	.014	.....	Orange.....	163	.31	.044	.....
Cream.....	150	.62	.115	.....	Cream.....	150	.57	.114	.....
Bread.....	180	3.10	.167	.....	Bread.....	180	2.81	.162	.....
Jelly (apple).....	25	.....	.002	.....	Jelly (apple).....	25	.....	.002	.....
Fowl.....	140	5.35	.300	.....	Fowl.....	140	5.26	.282	.....
Peas.....	150	1.14	.127	0.0186	Peas.....	150	1.08	.123	0.0167
Hominy.....	180	.70	.024	.....	Celery.....	140	.24	.044	.....
Sweet potato.....	180	.40	.068	.....	Boiled potato.....	150	.58	.121	.....
Water ice.....	300	.03	.017	.....	Ice cream.....	300	1.08	.215	.....
Grape juice (c. c.).....	300	.12	.020	.....	Grape juice (c. c.).....	350	.14	.024	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	450	.....	.....	.....
Total.....	2,290	13.51	1.118	.0186	Total.....	2,340	13.69	1.291	.0167
<i>Mar. 30, 1911.</i>					<i>Apr. 3, 1911.</i>				
Cream of wheat....	25	.50	.028	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	56.3	1.16	.133	.....	Egg.....	61.6	1.27	.146	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	130	.25	.035	.....	Orange.....	165	.31	.045	.....
Cream.....	150	.56	.114	.....	Cream.....	150	.59	.111	.....
Bread.....	180	2.88	.157	.....	Bread.....	180	2.86	.164	.....
Jelly (currant and raspberry).....	25	.01	.002	.....	Jelly (grape).....	25	.01	.004	.....
Veal.....	140	5.08	.339	.....	Lamb.....	140	5.66	.324	.....
Peas.....	150	1.11	.125	.0156	Peas.....	150	1.17	.127	.0147
String beans.....	120	.32	.033	.....	Beets.....	120	.28	.051	.....
Boiled potato.....	180	.52	.124	.....	Mashed potato.....	180	.52	.105	.....
Peaches.....	350	.39	.061	.....	Rice pudding.....	300	1.95	.325	.....
Grape juice (c. c.).....	250	.10	.017	.....	Water (c. c.).....	600	.....	.....	.....
Carbonated water (c. c.).....	50	.....	.....	.....	Total.....	2,130	15.28	1.525	.0147
Water (c. c.).....	400	.....	.....	.....	<i>Apr. 4, 1911.</i>				
Total.....	2,240	12.91	1.175	.0156	Cream of wheat....	25	.50	.028	.....
<i>Mar. 31, 1911.</i>					Egg.....	57	1.17	.135	.....
Oatmeal.....	25	.63	.116	.....	Butter.....	30	.03	.007	.....
Egg.....	53.5	1.10	.127	.....	Orange.....	171	.32	.046	.....
Butter.....	30	.03	.007	.....	Cream.....	150	.59	.113	.....
Orange.....	128	.25	.035	.....	Bread.....	180	2.95	.167	.....
Cream.....	150	.54	.117	.....	Jelly (guince).....	25	.....	.002	.....
Bread.....	180	2.81	.168	.....	Beef.....	140	5.70	.300	.....
Jelly (grape).....	25	.01	.004	.....	Peas.....	150	1.04	.125	.0146
Lamb.....	140	5.05	.294	.....	Lima beans.....	140	1.92	.154	.....
Peas.....	150	1.14	.127	.0176	Boiled potato.....	180	.50	.108	.....
Corn.....	250	.90	.164	.....	Strawberries.....	200	.32	.058	.....
Mashed potato.....	180	.50	.108	.....	Water (c. c.).....	800	.....	.....	.....
Cherries.....	368	.48	.073	.....	Total.....	2,250	15.04	1.243	.0146
Grape juice (c. c.).....	300	.12	.020	.....	<i>Apr. 5, 1911.</i>				
Water (c. c.).....	500	.....	.....	.....	Oatmeal.....	25	.63	.116	.....
Total.....	2,480	13.56	1.360	.0176	Egg.....	56.6	1.17	.134	.....
<i>Apr. 1, 1911.</i>					Butter.....	30	.03	.007	.....
Cream of wheat....	25	.50	.028	.....	Sliced bananas.....	70	.13	.018	.....
Egg.....	53.2	1.10	.126	.....	Cream.....	150	.53	.113	.....
Butter.....	30	.03	.007	.....	Bread.....	180	2.97	.160	.....
Sliced bananas.....	70	.12	.023	.....	Jelly (currant and raspberry).....	25	.01	.002	.....
Cream.....	150	.57	.110	.....	Fowl.....	140	5.31	.303	.....
Bread.....	180	2.66	.152	.....	Peas.....	200	1.54	.168	.0218
Jelly (guince).....	25	.....	.002	.....	Hominy.....	180	.67	.019	.....
Beef.....	140	5.53	.300	.....	Sweet potato.....	180	.31	.077	.....
Peas.....	150	1.11	.123	.0180	Water ice.....	300	.03	.017	.....
Boiled potato.....	180	.63	.082	.....	Water (c. c.).....	600	.....	.....	.....
Rice, steamed.....	180	.50	.036	.....	Total.....	2,140	13.33	1.134	.0218
Pears.....	350	.21	.044	.....	<i>Apr. 6, 1911.</i>				
Grape juice (c. c.).....	300	.12	.020	.....	Cream of wheat....	25	.50	.028	.....
Water (c. c.).....	500	.....	.....	.....	Egg.....	56.3	1.16	.133	.....
Total.....	2,330	13.08	1.053	.0180	Butter.....	30	.03	.007	.....

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 6, 1911—Con.</i>					<i>Apr. 10, 1911—Con.</i>				
Orange.....	<i>Grams.</i> 157	<i>Grams.</i> 0.80	<i>Grams.</i> 0.042	<i>Gram.</i>	Orange.....	<i>Grams.</i> 148.6	<i>Grams.</i> 0.29	<i>Grams.</i> 0.040	<i>Gram.</i>
Cream.....	150	.57	.113	.....	Cream.....	150	.56	.107	.....
Bread.....	180	2.70	.163	.....	Bread.....	180	2.66	.157	.....
Jelly (quince).....	25	.....	.002	.....	Jelly (apple).....	25	.....	.002	.....
Veal.....	140	5.14	.321	.....	Lamb.....	140	5.22	.300	.....
Peas.....	200	1.54	.164	0.0242	Peas.....	200	1.50	.157	0.0208
String beans.....	120	.32	.030	.....	Beets.....	120	.40	.055	.....
Boiled potato.....	180	.67	.075	.....	Mashed potato.....	180	.59	.108	.....
Peaches.....	350	.39	.061	.....	Rice pudding.....	300	1.80	.320	.....
Grape juice (c. c.).....	300	.12	.020	.....	Grape juice (c. c.).....	400	.16	.027	.....
Water (c. c.).....	700	.....	.....	.....	Water (c. c.).....	700	.....	.....	.....
Total.....	2,610	13.44	1.159	.0242	Total.....	2,650	14.95	1.524	.0208
<i>Apr. 7, 1911.</i>					<i>Apr. 11, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	53	1.09	.126	.....	Egg.....	58.8	1.21	.139	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Sliced bananas.....	70	.17	.021	.....	Orange.....	194.5	.37	.053	.....
Cream.....	150	.53	.114	.....	Cream.....	150	.57	.110	.....
Bread.....	180	3.11	.170	.....	Bread.....	180	2.95	.171	.....
Jelly (apple).....	25	.....	.002	.....	Jelly (grape).....	25	.01	.004	.....
Lamb.....	140	5.04	.297	.....	Beef.....	140	5.18	.294	.....
Peas.....	200	1.48	.173	.0226	Peas.....	200	1.44	.159	.0232
Corn.....	250	.88	.175	.....	Lima beans.....	140	1.78	.143	.....
Mashed potato.....	180	.54	.115	.....	Boiled potato.....	180	.68	.107	.....
Cherries.....	351	.46	.070	.....	Strawberries.....	200	.34	.058	.....
Grape juice (c. c.).....	500	.20	.034	.....	Grape juice (c. c.).....	300	.12	.020	.....
Water (c. c.).....	800	.....	.....	.....	Water (c. c.).....	500	.....	.....	.....
Total.....	2,950	14.16	1.420	.0226	Total.....	2,320	15.18	1.293	.0232
<i>Apr. 8, 1911.</i>					<i>Apr. 12, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	54.2	1.12	.128	.....	Egg.....	57.7	1.19	.137	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	124	.24	.033	.....	Sliced bananas.....	70	.13	.027	.....
Cream.....	150	.57	.111	.....	Cream.....	150	.57	.115	.....
Bread.....	180	2.84	.160	.....	Bread.....	180	2.81	.171	.....
Jelly (apple).....	25	.....	.002	.....	Jelly (apple).....	25	.....	.002	.....
Beef.....	140	5.46	.300	.....	Fowl.....	140	5.14	.290	.....
Peas.....	200	1.48	.166	.0210	Peas.....	200	1.48	.173	.0234
Boiled potato.....	180	.59	.127	.....	Hominy.....	180	.74	.025	.....
Rice, steamed.....	180	.74	.058	.....	Sweet potato.....	180	.29	.093	.....
Pears.....	350	.21	.044	.....	Water ice.....	300	.03	.017	.....
Grape juice (c. c.).....	200	.08	.014	.....	Grape juice (c. c.).....	200	.08	.014	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	400	.....	.....	.....
Total.....	2,340	13.86	1.178	.0210	Total.....	2,140	13.12	41.187	.0234
<i>Apr. 9, 1911.</i>					<i>Apr. 13, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	57.3	1.18	.136	.....	Egg.....	55.9	1.15	.132	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	146.5	.28	.040	.....	Orange.....	192.3	.36	.052	.....
Cream.....	150	.60	.114	.....	Cream.....	150	.56	.114	.....
Bread.....	180	2.95	.163	.....	Bread.....	180	3.02	.165	.....
Jelly (currant).....	25	.01	.002	.....	Jelly (grape).....	25	.01	.004	.....
Fowl.....	140	4.97	.291	.....	Veal.....	140	5.33	.318	.....
Peas.....	200	1.48	.161	.0236	Peas.....	200	1.50	.161	.0230
Celery.....	140	.17	.050	.....	String beans.....	120	.32	.031	.....
Boiled potato.....	180	.43	.115	.....	Boiled potato.....	180	.41	.090	.....
Ice cream.....	300	1.11	.218	.....	Peaches.....	350	.39	.061	.....
Grape juice (c. c.).....	400	.16	.027	.....	Grape juice (c. c.).....	300	.12	.020	.....
Water (c. c.).....	400	.....	.....	.....	Water (c. c.).....	500	.....	.....	.....
Total.....	2,370	13.87	1.352	.0236	Total.....	2,450	13.70	1.183	.0230
<i>Apr. 10, 1911.</i>					<i>Apr. 14, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	54	1.11	.128	.....	Egg.....	54.3	1.12	.129	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....

¹ Estimated.

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 14, 1911—Con.</i>					<i>Apr. 18, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Sliced bananas.....	70	0.13	0.020	.....	Cream.....	150	0.56	0.114	.....
Cream.....	150	.65	.119	.....	Bread.....	180	2.92	.173	.....
Bread.....	180	2.93	.168	.....	Jelly (currant).....	25	.01	.002	.....
Jelly (apple).....	25	.....	.002	.....	Beef.....	140	5.11	.300	.....
Lamb.....	140	4.66	.290	.....	Peas.....	200	1.30	.166	0.0218
Peas.....	200	1.50	.166	0.0218	Lima beans.....	140	1.85	.158	.....
Corn.....	250	1.00	.161	.....	Boiled potato.....	150	.70	.085	.....
Mashed potato.....	180	.56	.105	.....	Strawberries.....	200	.42	.058	.....
Cherries.....	361	.47	.072	.....	Grape juice (c. c.).....	600	.24	.041	.....
Grape juice (c. c.).....	200	.08	.014	.....	Water (c. c.).....	800	.....	.....	.....
Water (c. c.).....	400	.....	.....	.....		
Total.....	2,270	13.76	1.369	.0218	Total.....	2,910	15.13	1.313	.0218
<i>Apr. 15, 1911.</i>					<i>Apr. 19, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	53.7	1.11	.127	.....	Egg.....	54.7	1.13	.130	.....
Butter.....	30	.03	.007	.....	Butter.....	30	.03	.007	.....
Orange.....	206.5	.39	.056	.....	Sliced bananas.....	70	.12	.020	.....
Cream.....	150	.59	.114	.....	Cream.....	150	.59	.117	.....
Bread.....	180	2.95	.171	.....	Bread.....	180	2.83	.160	.....
Jelly (grape).....	25	.01	.004	.....	Jelly (apple).....	25	.....	.002	.....
Beef.....	140	5.60	.312	.....	Fowl.....	140	5.01	.300	.....
Peas.....	200	1.48	.169	.0186	Peas.....	200	1.10	.171	.0212
Boiled potato.....	180	.52	.105	.....	Hominy.....	150	.77	.024	.....
Rice, steamed.....	180	.65	.049	.....	Sweet potato.....	150	.40	.108	.....
Pears.....	350	.21	.044	.....	Water ice.....	300	.03	.017	.....
Grape juice (c. c.).....	200	.08	.014	.....	Grape juice (c. c.).....	400	.16	.027	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	600	.....	.....	.....
Total.....	2,420	14.12	1.200	.0186	Total.....	2,540	12.80	1.199	.0212
<i>Apr. 16, 1911.</i>					<i>Apr. 20, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	64	1.32	.152	.....	Egg.....	56.2	1.16	.133	.....
Butter.....	30	.03	.007	.....	Butter.....	40	.04	.009	.....
Orange.....	163.2	.31	.044	.....	Orange.....	153.5	.30	.041	.....
Cream.....	150	.53	.114	.....	Cream.....	150	.54	.109	.....
Bread.....	180	2.90	.176	.....	Bread.....	180	2.77	.168	.....
Jelly (apple).....	25	.....	.002	.....	Jelly (apple).....	25	.01	.002	.....
Fowl.....	140	5.18	.297	.....	Veal.....	130	4.60	.312	.....
Peas.....	200	1.46	.173	.0202	Peas.....	300	1.71	.249	.0237
Celery.....	140	.21	.044	.....	String beans.....	60	.18	.021	.....
Boiled potato.....	180	.43	.091	.....	Boiled potato.....	150	.43	.110	.....
Ice cream.....	300	1.08	.223	.....	Peaches.....	350	.39	.061	.....
Grape juice (c. c.).....	400	.16	.027	.....	Grape juice (c. c.).....	200	.08	.014	.....
Water (c. c.).....	400	.....	.....	.....	Water (c. c.).....	400	.....	.....	.....
Total.....	2,400	14.11	1.378	.0202	Total.....	2,250	12.71	1.257	.0237
<i>Apr. 17, 1911.</i>					<i>Apr. 21, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	61.8	1.27	.146	.....	Egg.....	55.6	1.14	.132	.....
Butter.....	30	.03	.007	.....	Butter.....	40	.04	.009	.....
Orange.....	149	.29	.040	.....	Sliced bananas.....	70	.14	.016	.....
Cream.....	150	.57	.113	.....	Cream.....	150	.51	.110	.....
Bread.....	180	2.79	.165	.....	Bread.....	180	2.84	.173	.....
Jelly (quince).....	25	.....	.002	.....	Jelly (quince).....	25	.....	.002	.....
Lamb.....	140	5.70	.331	.....	Lamb.....	130	4.58	.290	.....
Peas.....	200	1.48	.164	.0190	Peas.....	300	2.22	.251	.0234
Beets.....	120	.36	.081	.....	Corn.....	180	.72	.127	.....
Mashed potato.....	180	.67	.130	.....	Mashed potato.....	180	.47	.101	.....
Rice pudding.....	300	1.65	.330	.....	Cherries.....	315.5	.41	.063	.....
Grape juice (c. c.).....	300	.12	.020	.....	Grape juice (c. c.).....	300	.12	.020	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	500	.....	.....	.....
Total.....	2,360	15.56	1.645	.0190	Total.....	2,450	13.82	1.410	.0234
<i>Apr. 18, 1911.</i>					<i>Apr. 22, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	155	1.13	.130	.....	Egg.....	52.5	1.08	.124	.....
Butter.....	30	.03	.007	.....	Butter.....	40	.04	.009	.....
Orange.....	183.5	.36	.051	.....	Orange.....	147	.28	.040	.....

¹ Estimated.

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 22, 1911—Con.</i>					<i>Apr. 26, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream.....	150	0.50	0.110	.....	Cream.....	150	0.59	0.115	.....
Bread.....	180	2.88	.171	.....	Bread.....	180	2.72	.168	.....
Jelly (currant).....	25	.01	.002	.....	Jelly (grape).....	25	.01	.004	.....
Beef.....	130	5.06	.273	.....	Fowl.....	130	4.75	.281	.....
Peas.....	300	2.22	.239	0.0243	Peas.....	300	2.28	.254	0.0255
Boiled potato.....	180	.45	.108	.....	Hominy.....	180	.68	.025	.....
Rice, steamed.....	180	.61	.053	.....	Sweet potato.....	180	.54	.102	.....
Pears.....	350	.21	.044	.....	Water ice.....	300	.03	.017	.....
Grape juice (c. c.).....	400	.16	.027	.....	Grape juice (c. c.).....	400	.16	.027	.....
Water (c. c.).....	600	.....	.....	.....	Water (c. c.).....	750	.....	.....	.....
Total.....	2,760	14.00	1.228	.0243	Total.....	2,790	13.72	1.275	.0255
<i>Apr. 23, 1911.</i>					<i>Apr. 27, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	61.7	1.27	.146	.....	Egg.....	57.3	1.18	.136	.....
Butter.....	40	.04	.009	.....	Butter.....	40	.04	.009	.....
Orange.....	148	.29	.040	.....	Orange.....	162.5	.31	.044	.....
Cream.....	150	.54	.110	.....	Cream.....	150	.56	.114	.....
Bread.....	180	2.84	.165	.....	Bread.....	180	2.79	.178	.....
Jelly (quince).....	25	.....	.002	.....	Jelly (apple).....	25	.....	.002	.....
Fowl.....	130	4.67	.269	.....	Veal.....	130	4.82	.307	.....
Peas.....	300	2.13	.239	.0204	Peas.....	300	2.22	.246	.0288
Celery.....	140	.21	.039	.....	String beans.....	60	.18	.019	.....
Boiled potato.....	180	.50	.090	.....	Boiled potato.....	180	.47	.097	.....
Ice cream.....	300	1.08	.210	.....	Peaches.....	350	.39	.061	.....
Grape juice (c. c.).....	400	.16	.027	.....	Grape juice (c. c.).....	200	.08	.014	.....
Water (c. c.).....	400	.....	.....	.....	Water (c. c.).....	500	.....	.....	.....
Total.....	2,480	14.23	1.374	.0204	Total.....	2,360	13.54	1.255	.0288
<i>Apr. 24, 1911.</i>					<i>Apr. 28, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	52.8	1.09	.125	.....	Egg.....	54.3	1.12	.129	.....
Butter.....	30	.03	.007	.....	Butter.....	40	.04	.009	.....
Orange.....	150	.29	.041	.....	Sliced bananas.....	70	.15	.018	.....
Cream.....	150	.57	.115	.....	Cream.....	150	.59	.119	.....
Bread.....	180	2.59	.170	.....	Bread.....	180	2.88	.174	.....
Jelly (currant).....	25	.01	.002	.....	Jelly (apple).....	25	.....	.002	.....
Lamb.....	130	4.56	.281	.....	Lamb.....	130	4.86	.281	.....
Peas.....	300	2.34	.249	.0249	Peas.....	300	2.37	.262	.0177
Beets.....	130	.25	.079	.....	Corn.....	180	.77	.126	.....
Mashed potato.....	180	.54	.104	.....	Mashed potato.....	180	.59	.108	.....
Rice pudding.....	300	1.86	.315	.....	Cherries.....	425	.55	.084	.....
Grape juice (c. c.).....	300	.12	.020	.....	Grape juice (c. c.).....	400	.16	.027	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	700	.....	.....	.....
Total.....	2,450	14.88	1.624	.0249	Total.....	2,860	14.71	1.455	.0177
<i>Apr. 25, 1911.</i>					<i>Apr. 29, 1911.</i>				
Cream of wheat.....	25	.50	.028	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	53.9	1.11	.128	.....	Egg.....	52	1.07	.123	.....
Butter.....	40	.04	.009	.....	Butter.....	40	.04	.009	.....
Orange.....	161	.30	.043	.....	Orange.....	149.5	.29	.040	.....
Cream.....	150	.56	.111	.....	Cream.....	150	.56	.111	.....
Bread.....	180	2.95	.174	.....	Bread.....	180	2.93	.173	.....
Jelly (apple).....	25	.....	.002	.....	Jelly (currant).....	25	.01	.002	.....
Beef.....	130	4.62	.285	.....	Beef.....	130	5.01	.269	.....
Peas.....	300	2.25	.246	.0258	Peas.....	300	2.46	.265	.0276
Lima beans.....	140	1.79	.157	.....	Boiled potato.....	180	.47	.102	.....
Boiled potato.....	180	.52	.113	.....	Rice, steamed.....	180	.58	.046	.....
Strawberries.....	200	.42	.058	.....	Pears.....	350	.21	.044	.....
Grape juice (c. c.).....	400	.16	.027	.....	Grape juice (c. c.).....	200	.08	.014	.....
Water (c. c.).....	600	.....	.....	.....	Water (c. c.).....	800	.....	.....	.....
Total.....	2,590	15.22	1.381	.0258	Total.....	2,760	14.21	1.226	.0276
<i>Apr. 26, 1911.</i>					<i>Apr. 30, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Cream of wheat.....	25	.50	.028	.....
Egg.....	56.3	1.16	.133	.....	Egg.....	51.8	1.07	.123	.....
Butter.....	40	.04	.009	.....	Butter.....	40	.04	.009	.....
Sliced bananas.....	70	.13	.024	.....	Orange.....	210.5	.40	.057	.....

¹ Estimated.

CHART I.—*Diet*—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 30, 1911—Con.</i>					<i>May 4 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream.....	150	0.57	0.115		Bread.....	180	2.66	0.163	
Bread.....	180	2.92	.171		Jelly (currant).....	25	.01	.002	
Jelly (apple).....	25		.002		Veal.....	130	4.84	.315	
Fowl.....	130	4.04	.276		Peas.....	300	2.13	.181	0.0246
Peas.....	300	2.19	.246	0.0264	String beans.....	200	.56	.080	.0078
Celery.....	140	.17	.038		Boiled potato.....	180	.49	.099	
Boiled potato.....	180	.59	.104		Peaches.....	350	.39	.061	
Ice cream.....	300	1.11	.210		Grape juice (c. c.).....	400	.16	.027	
Grape juice (c. c.).....	400	.16	.027		Water (c. c.).....	800			
Water (c. c.).....	400								
Total.....	2,530	14.56	1.406	.0264	Total.....	3,020	13.83	1.254	.0324
<i>May 1, 1911.</i>					<i>May 5, 1911.</i>				
Oatmeal.....	25	.63	.116		Oatmeal.....	25	.63	.116	
Egg.....	50.4	1.04	.119		Egg.....	57.8	1.19	.137	
Butter.....	40	.04	.009		Butter.....	40	.04	.009	
Orange.....	165	.31	.045		Sliced bananas.....	70	.14	.019	
Cream.....	150	.56	.117		Cream.....	150	.60	.114	
Bread.....	180	2.75	.178		Bread.....	180	3.17	.170	
Jelly (currant).....	25	.01	.002		Jelly (apple).....	25		.002	
Lamb.....	130	4.68	.290		Lamb.....	130	4.71	.293	
Peas.....	300	2.19	.251	.0222	Peas.....	300	2.19	.186	.0270
Beets.....	120	.34	.062		String beans.....	200	.58	.079	.0094
Mashed potato.....	180	.56	.101		Boiled potato.....	180	.59	.104	
Rice pudding.....	300	2.31	.330		Peaches.....	350	.39	.061	
Grape juice (c. c.).....	400	.16	.027		Grape juice (c. c.).....	300	.12	.020	
Water (c. c.).....	950				Water (c. c.).....	500			
Total.....	3,020	15.58	1.647	.0222	Total.....	2,510	14.35	1.310	.0364
<i>May 2, 1911.</i>					<i>May 6, 1911.</i>				
Cream of wheat.....	25	.50	.028		Cream of wheat.....	25	.50	.028	
Egg.....	58.4	1.20	.138		Egg.....	53.7	1.11	.127	
Butter.....	40	.04	.009		Butter.....	40	.04	.009	
Orange.....	147.5	.29	.040		Orange.....	201.8	.38	.054	
Cream.....	150	.65	.120		Cream.....	150	.63	.120	
Bread.....	180	2.92	.174		Bread.....	180	2.99	.162	
Jelly (grape).....	25	.01	.004		Jelly (grape).....	25	.01	.004	
Beef.....	130	4.78	.273		Beef.....	130	4.97	.281	
Peas.....	300	2.25	.251	.0276	Peas.....	300	1.89	.189	.0249
Lima beans.....	140	1.39	.123		String beans.....	200	.64	.084	.0098
Boiled potato.....	180	.47	.101		Boiled potato.....	180	.70	.121	
Strawberries.....	200	.30	.058		Peas.....	350	.21	.044	
Grape juice (c. c.).....	350	.14	.024		Grape juice (c. c.).....	200	.08	.014	
Water (c. c.).....	800				Water (c. c.).....	600			
Total.....	2,730	14.94	1.343	.0276	Total.....	2,640	14.15	1.237	.0347
<i>May 3, 1911.</i>					<i>May 7, 1911.</i>				
Oatmeal.....	25	.63	.116		Cream of wheat.....	25	.50	.028	
Egg.....	57.4	1.18	.136		Egg.....	52.6	1.08	.125	
Butter.....	40	.04	.009		Butter.....	40	.04	.009	
Sliced bananas.....	70	.13	.028		Orange.....	194.5	.37	.053	
Cream.....	150	.57	.114		Cream.....	150	.60	.119	
Bread.....	180	3.06	.168		Bread.....	180	3.01	.159	
Jelly (apple).....	25		.002		Jelly (grape).....	25	.01	.004	
Fowl.....	130	4.71	.281		Fowl.....	130	5.24	.278	
Peas.....	300	2.13	.186	.0237	Peas.....	300	2.10	.186	.0231
String beans.....	200	.58	.073	.0098	String beans.....	200	.62	.079	.0084
Sweet potato.....	180	.32	.075		Boiled potato.....	180	.54	.115	
Water ice.....	300	.03	.017		Ice cream.....	300	1.02	.202	
Grape juice (c. c.).....	200	.08	.014		Grape juice (c. c.).....	400	.16	.027	
Water (c. c.).....	400				Water (c. c.).....	400			
Total.....	2,260	13.46	1.219	.0335	Total.....	2,580	15.29	1.384	.0615
<i>May 4, 1911.</i>					<i>May 8, 1911.</i>				
Cream of wheat.....	25	.50	.028		Oatmeal.....	25	.63	.116	
Egg.....	54.6	1.12	.129		Egg.....	54.7	1.13	.130	
Butter.....	40	.04	.009		Butter.....	40	.04	.009	
Orange.....	189	.36	.051		Orange.....	223	.43	.060	
Cream.....	150	.57	.109		Cream.....	150	.56	.110	
					Bread.....	180	2.95	.181	

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 8, 1911—Con.</i>					<i>May 12, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Jelly (grape).....	25	0.01	0.004	.....	Peas.....	300	2.22	0.183	0.0291
Lamb.....	130	4.82	.276	.....	String beans.....	200	.60	.079	.0090
Peas.....	300	1.92	.181	0.0219	Mashed potato.....	180	.58	.127	.....
String beans.....	200	.64	.103	.0096	Peaches.....	350	.39	.061	.....
Boiled potato.....	180	.54	.116	.....	Grape juice (c. c.)	500	.20	.034	.....
Rice pudding.....	300	1.95	.322	.....	Water (c. c.).....	1,000	.....	.....	.....
Grape juice (c. c.)	500	.20	.034	.....				
Water (c. c.).....	1,000	.....	.....	.....	Total.....	3,210	14.53	1.362	.0381
Total.....	3,310	15.82	1.642	.0315	<i>May 13, 1911.</i>				
<i>May 9, 1911.</i>					Cream of wheat....	25	.50	.028	.....
Cream of wheat....	25	.50	.028	.....	Egg.....	55.5	1.14	.132	.....
Egg.....	60	1.24	.142	.....	Butter.....	40	.04	.009	.....
Butter.....	40	.04	.009	.....	Orange.....	134.5	.26	.036	.....
Orange.....	135	.26	.036	.....	Cream.....	150	.50	.104	.....
Cream.....	150	.56	.113	.....	Bread.....	180	2.88	.174	.....
Bread.....	180	2.92	.181	.....	Jelly (grape).....	25	.01	.004	.....
Jelly (currant).....	25	.01	.002	.....	Beef.....	130	5.08	.269	.....
Beef.....	130	5.14	.273	.....	Peas.....	300	2.16	.197	.0246
Peas.....	300	2.16	.204	.0276	String beans.....	200	.58	.077	.0104
String beans.....	200	.56	.075	.0080	Boiled potato.....	180	.54	.116	.....
Boiled potato.....	180	.56	.127	.....	Pears.....	350	.21	.044	.....
Strawberries.....	200	.36	.058	.....	Grape juice (c. c.)	600	.24	.041	.....
Grape juice (c. c.)	300	.12	.020	.....	Water (c. c.).....	900	.....	.....	.....
Water (c. c.).....	400	.....	.....	.....	Total.....	3,270	14.14	1.231	.0350
Total.....	2,330	14.43	1.268	.0356	<i>May 14, 1911.</i>				
<i>May 10, 1911.</i>					Cream of wheat....	25	.50	.028	.....
Oatmeal.....	25	.63	.116	.....	Egg.....	59.7	1.23	.141	.....
Egg.....	57.6	1.19	.136	.....	Butter.....	40	.04	.009	.....
Butter.....	40	.04	.009	.....	Orange.....	181.6	.34	.049	.....
Sliced bananas.....	70	.13	.018	.....	Cream.....	150	.57	.113	.....
Cream.....	150	.59	.117	.....	Bread.....	180	2.93	.179	.....
Bread.....	180	2.88	.176	.....	Jelly (grape).....	25	.01	.004	.....
Jelly (currant).....	25	.01	.002	.....	Fowl.....	130	4.90	.269	.....
Fowl.....	130	4.78	.269	.....	Peas.....	300	2.31	.183	.0270
Peas.....	300	2.10	.175	.0201	String beans.....	200	.62	.084	.0096
String beans.....	200	.60	.079	.0098	Boiled potato.....	180	.58	.118	.....
Sweet potato.....	180	.59	.099	.....	Ice cream.....	300	1.11	.225	.....
Water ice.....	300	.03	.017	.....	Grape juice (c. c.)	700	.28	.048	.....
Grape juice (c. c.)	400	.16	.027	.....	Water (c. c.).....	900	.....	.....	.....
Water (c. c.).....	700	.....	.....	.....	Total.....	3,370	15.42	1.450	.0366
Total.....	2,760	13.73	1.240	.0299	<i>May 15, 1911.</i>				
<i>May 11, 1911</i>					Oatmeal.....	25	.63	.116	.....
Cream of wheat....	25	.50	.028	.....	Egg.....	72.8	1.50	.173	.....
Egg.....	54	1.11	.128	.....	Butter.....	40	.04	.009	.....
Butter.....	40	.04	.009	.....	Orange.....	220.3	.41	.060	.....
Orange.....	189	.36	.051	.....	Cream.....	150	.63	.117	.....
Cream.....	150	.56	.114	.....	Bread.....	180	2.81	.173	.....
Bread.....	180	2.86	.173	.....	Jelly (currant).....	25	.01	.002	.....
Jelly (quince).....	25	.....	.002	.....	Lamb.....	130	4.99	.278	.....
Veal.....	130	5.14	.307	.....	Peas.....	300	2.28	.181	.0267
Peas.....	300	2.10	.189	.0234	String beans.....	200	.64	.089	.0090
String beans.....	200	.56	.080	.0096	Mashed potato.....	180	.56	.105	.....
Boiled potato.....	180	.56	.102	.....	Rice pudding.....	300	1.68	.309	.....
Peaches.....	350	.39	.061	.....	Grape juice (c. c.)	650	.22	.037	.....
Grape juice (c. c.)	800	.32	.054	.....	Water (c. c.).....	600	.....	.....	.....
Water (c. c.).....	1,250	.....	.....	.....	Total.....	2,970	16.40	1.649	.0357
Total.....	3,870	14.50	1.298	.0330	<i>May 16, 1911.</i>				
<i>May 12, 1911.</i>					Cream of wheat....	25	.50	.028	.....
Oatmeal.....	25	.63	.116	.....	Egg.....	55.3	1.16	.133	.....
Egg.....	63	1.30	.149	.....	Butter.....	40	.04	.009	.....
Butter.....	40	.04	.009	.....	Orange.....	188	.36	.051	.....
Sliced bananas.....	70	.10	.021	.....	Cream.....	150	.57	.115	.....
Cream.....	150	.54	.113	.....	Bread.....	180	2.83	.176	.....
Bread.....	180	2.90	.181	.....	Jelly (currant).....	25	.01	.002	.....
Jelly (apple).....	25	.....	.002	.....	Beef.....	130	5.02	.273	.....
Lamb.....	130	5.03	.287	.....	Peas.....	300	2.10	.191	.0270
					String beans.....	200	.58	.080	.0100

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 16, 1911—Con.</i>					<i>May 20, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Boiled potato.....	180	0.43	0.127	.....	Grape juice (c. c.)..	300	0.12	0.032	.....
Strawberries.....	200	.44	.058	.....	Water (c. c.).....	850	.....	.....	.....
Water (c. c.).....	1,450	.....	.....	.....	Total.....	2,950	13.33	1.280	.....
Total.....	3,120	14.04	1.243	0.0370	<i>May 21, 1911.</i>				
<i>May 17, 1911.</i>					Cream of wheat....	25	.50	.028	.....
Oatmeal.....	25	.63	.116	.....	Egg.....	57.6	1.19	.136	.....
Egg.....	57.3	1.18	.136	.....	Butter.....	40	.04	.009	.....
Butter.....	40	.04	.009	.....	Orange.....	164.8	.31	.045	.....
Sliced bananas.....	70	.15	.023	.....	Cream.....	150	.59	.114	.....
Cream.....	150	.57	.115	.....	Bread.....	180	3.04	.185	.....
Bread.....	180	2.84	.174	.....	Jelly (apple).....	25	.....	.002	.....
Jelly (apple).....	25	.....	.002	.....	Fowl.....	130	5.02	.273	.....
Fowl.....	130	4.59	.261	.....	Peas.....	300	1.71	.197	.....
Peas.....	300	1.68	.189	.....	String beans.....	200	.58	.073	.....
String beans.....	200	.60	.086	.....	Boiled potato.....	180	.67	.115	.....
Sweet potato.....	180	.45	.085	.....	Ice cream.....	300	1.08	.218	.....
Water ice.....	300	.03	.017	.....	Grape juice (c. c.)..	550	.22	.037	.....
Grape juice (c. c.)..	600	.24	.041	.....	Water (c. c.).....	600	.....	.....	.....
Water (c. c.).....	900	.....	.....	.....	Total.....	2,900	14.95	1.432	.....
Total.....	3,160	13.00	1.254	.....	<i>May 22, 1911.</i>				
<i>May 18, 1911.</i>					Oatmeal.....	25	.63	.116	.....
Cream of wheat.....	25	.50	.028	.....	Egg.....	53.1	1.09	.126	.....
Egg.....	55	1.13	.130	.....	Butter.....	40	.04	.009	.....
Butter.....	40	.04	.009	.....	Orange.....	149.9	.29	.040	.....
Orange.....	158	.30	.043	.....	Cream.....	150	.57	.115	.....
Cream.....	150	.57	.119	.....	Bread.....	180	2.92	.181	.....
Bread.....	180	2.92	.181	.....	Jelly (quince).....	25	.....	.002	.....
Jelly (apple).....	25	.....	.002	.....	Lamb.....	130	4.24	.269	.....
Veal.....	130	5.14	.304	.....	Peas.....	300	1.80	.191	.....
Peas.....	300	1.65	.186	.....	String beans.....	200	.60	.084	.....
String beans.....	200	.58	.070	.....	Mashed potato.....	180	.61	.101	.....
Boiled potato.....	180	.40	.093	.....	Rice pudding.....	300	1.86	.301	.....
Peaches.....	350	.39	.061	.....	Grape juice (c. c.)..	600	.24	.041	.....
Grape juice (c. c.)..	500	.20	.034	.....	Water (c. c.).....	1,200	.....	.....	.....
Water (c. c.).....	1,000	.....	.....	.....	Total.....	3,530	14.89	1.576	.....
Total.....	3,290	13.82	1.260	.....	<i>May 23, 1911.</i>				
<i>May 19, 1911.</i>					Cream of wheat....	25	.50	.028	.....
Oatmeal.....	25	.63	.116	.....	Egg.....	62.9	1.30	.149	.....
Egg.....	59.4	1.22	.141	.....	Butter.....	40	.04	.009	.....
Butter.....	40	.04	.009	.....	Orange.....	185.8	.35	.050	.....
Sliced bananas.....	70	.13	.017	.....	Cream.....	150	.56	.117	.....
Cream.....	150	.54	.119	.....	Bread.....	180	2.83	.167	.....
Bread.....	180	2.93	.185	.....	Jelly (grape).....	25	.01	.004	.....
Jelly (currant).....	25	.01	.002	.....	Beef.....	130	5.28	.276	.....
Lamb.....	130	4.29	.265	.....	Peas.....	300	1.83	.181	.....
Peas.....	300	1.65	.178	.....	String beans.....	200	.60	.070	.....
String beans.....	200	.56	.082	.....	Boiled potato.....	180	.52	.090	.....
Mashed potato.....	180	.49	.099	.....	Strawberries.....	200	.36	.058	.....
Peaches.....	350	.39	.061	.....	Water (c. c.).....	1,400	.....	.....	.....
Grape juice (c. c.)..	400	.16	.027	.....	Total.....	3,080	14.18	1.199	.....
Water (c. c.).....	1,000	.....	.....	.....	<i>May 24, 1911.</i>				
Total.....	3,110	13.04	1.301	.....	Oatmeal.....	25	.63	.116	.....
<i>May 20, 1911.</i>					Egg.....	55.8	1.15	.132	.....
Cream of wheat.....	25	.50	.028	.....	Butter.....	40	.04	.009	.....
Egg.....	55.7	1.15	.132	.....	Sliced bananas.....	70	.13	.019	.....
Butter.....	40	.04	.009	.....	Cream.....	150	.59	.117	.....
Orange.....	160.5	.30	.043	.....	Bread.....	180	2.99	.173	.....
Cream.....	150	.62	.122	.....	Jelly (grape).....	25	.01	.004	.....
Bread.....	180	2.79	.185	.....	Fowl.....	130	4.78	.261	.....
Jelly (currant).....	25	.01	.002	.....	Peas.....	300	1.65	.189	.....
Beef.....	130	4.78	.290	.....	String beans.....	200	.60	.077	.....
Peas.....	300	1.71	.189	.....	Sweet potato.....	180	.43	.091	.....
String beans.....	200	.56	.089	.....	Water ice.....	300	.03	.017	.....
Boiled Potato.....	180	.54	.127	.....	Grape juice (c. c.)..	300	.12	.020	.....
Pears.....	350	.21	.044	.....	Water (c. c.).....	700	.....	.....	.....
					Total.....	2,660	13.15	1.225	.....

CHART I.—Diet—Continued.

SUBJECT No. 7—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 25, 1911.</i>					<i>May 28, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	25	0.50	0.028	.....	Cream of wheat....	25	0.50	0.028	.....
Egg.....	52.5	1.08	.124	.....	Egg.....	55.3	1.14	.131	.....
Butter.....	40	.04	.009	.....	Butter.....	40	.04	.009	.....
Orange.....	184.5	.35	.050	.....	Orange.....	188	.36	.051	.....
Cream.....	150	.59	.117	.....	Cream.....	150	.54	.118	.....
Bread.....	180	2.86	.171	.....	Bread.....	180	2.38	.187	.....
Jelly (grape).....	25	.01	.004	.....	Jelly (currant).....	25	.01	.002	.....
Veal.....	130	5.28	.304	.....	Fowl.....	130	4.82	.265	.....
Peas.....	300	1.71	.202	.....	Peas.....	300	1.62	.186	.....
String beans.....	200	.60	.072	.....	String beans.....	200	.60	.068	.....
Boiled potato.....	180	.68	.096	.....	Boiled potato.....	180	.72	.069	.....
Peaches.....	350	.39	.061	.....	Ice cream.....	300	1.05	.199	.....
Grape juice (c. c.)	350	.14	.024	.....	Grape juice (c. c.)	475	.20	.032	.....
Water (c. c.).....	600	.....	.....	.....	Water (c. c.).....	525	.....	.....	.....
Total.....	2,770	14.23	1.262	.....	Total.....	2,770	14.48	1.345	.....
<i>May 26, 1911.</i>					<i>May 29, 1911.</i>				
Cream of wheat....	25	.50	.028	.....	Oatmeal.....	25	.63	.116	.....
Egg.....	62.9	1.30	.149	.....	Egg.....	52.6	1.08	.125	.....
Butter.....	40	.04	.009	.....	Butter.....	40	.04	.009	.....
Sliced bananas.....	70	.13	.017	.....	Orange.....	159.5	.30	.043	.....
Cream.....	150	.57	.114	.....	Cream.....	150	.57	.113	.....
Bread.....	180	2.92	.167	.....	Bread.....	180	2.81	.170	.....
Jelly (quince).....	25	.....	.002	.....	Jelly (currant).....	25	.01	.002	.....
Lamb.....	130	4.71	.281	.....	Lamb.....	130	4.91	.287	.....
Peas.....	300	1.77	.194	.....	Peas.....	300	1.62	.202	.....
String beans.....	200	.60	.070	.....	String beans.....	200	.66	.068	.....
Mashed potato.....	180	.56	.060	.....	Mashed potato.....	180	.56	.063	.....
Peaches.....	350	.39	.061	.....	Rice pudding.....	300	2.34	.315	.....
Grape juice (c. c.)	450	.18	.031	.....	Grape juice (c. c.)	400	.16	.027	.....
Water (c. c.).....	500	.....	.....	.....	Water (c. c.).....	800	.....	.....	.....
Total.....	2,660	13.67	1.183	.....	Total.....	2,940	15.69	1.540	.....
<i>May 27, 1911.</i>					<i>May 30, 1911.</i>				
Oatmeal.....	25	.63	.116	.....	Cream of wheat....	25	.50	.028	.....
Egg.....	156.5	1.16	.134	.....	Egg.....	60.8	1.25	.144	.....
Butter.....	40	.04	.009	.....	Butter.....	40	.04	.009	.....
Orange.....	236.1	.45	.064	.....	Orange.....	146.5	.28	.040	.....
Cream.....	150	.56	.111	.....	Cream.....	150	.57	.114	.....
Bread.....	180	2.84	.178	.....	Bread.....	180	2.93	.174	.....
Jelly (quince).....	25	.....	.002	.....	Jelly (quince).....	25	.....	.002	.....
Beef.....	130	5.40	.276	.....	Beef.....	130	5.06	.276	.....
Peas.....	300	1.80	.191	.....	Peas.....	300	1.56	.194	.....
String beans.....	200	.54	.080	.....	String beans.....	200	.60	.065	.....
Boiled potato.....	180	.67	.060	.....	Boiled potato.....	180	.52	.066	.....
Pears.....	350	.21	.044	.....	Strawberries.....	200	.36	.058	.....
Grape juice (c. c.)	600	.24	.041	.....	Water (c. c.).....	800	.....	.....	.....
Water (c. c.).....	1,400	.....	.....	.....	Total.....	2,440	13.67	1.170	.....
Total.....	3,870	14.54	1.306	.....				

* Estimated.

CHART I.—*Diet*—Continued.

SUBJECT No. 8 (M. W.).

Food.	Sunday.	Monday.	Tuesday.	Wednes- day.	Thurs- day.	Friday.	Satur- day.
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Cream of wheat.....	20		20		20		20
Oatmeal.....		20		20		20	
Egg (number).....	1	1	1	1	1	1	1
Butter.....	60	60	60	60	60	60	60
Orange (number).....	1	1	1		1		1
Sliced bananas.....				80		80	
Cream.....	200	200	200	200	200	200	200
Bread.....	250	250	250	250	250	250	250
Jelly.....	50	50	50	50	50	50	50
Fowl.....	160			160			
Veal.....					160		
Lamb.....		160				160	
Peas.....	150	150	150	150	150	150	150
Beets.....		100					
Lima beans.....			100				
String beans.....					100		
Corn.....						100	
Celery.....	100						
Hominy.....				100			
Mashed or boiled potato.....	160	160	160		160	160	160
Sweet potato.....				180			
Rice, steamed.....							100
Rice pudding.....		300					
Ice cream.....	300						
Water ice.....				300			
Peaches.....					400		
Pears.....							400
Cherries.....						300	
Strawberries.....			300				
Water (c. c.).....	1,600	1,600	1,600	1,600	1,600	1,600	1,600

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 1, 1911.</i>					<i>Mar. 3, 1911—Con.</i>				
<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	
Oatmeal.....	20	0.50	0.093		Sliced bananas.....	80	0.14	0.021	
Egg.....	51.5	1.06	.122		Cream.....	200	.82	.072	
Butter.....	60	.07	.013		Bread.....	250	4.08	.245	
Sliced bananas.....	80	.15	.036		Jelly (grape).....	50	.02	.008	
Cream.....	200	.76	.155		Lamb.....	160	5.38	.378	
Bread.....	250	4.00	.210		Peas.....	150	.83	.098	
Jelly (grape).....	50	.02	.008		Corn.....	100	.37	.073	
Fowl.....	160	4.56	.363		Boiled potato.....	160	.56	.109	
Peas.....	150	.84	.085		Cherries.....	300	.39	.059	
Hominy.....	100	.39	.013		Water (c. c.).....	1,400			
Potato.....	160	.56	.101		Total.....	2,990	14.34	1.305	
Water ice.....	300	.03	.017						
Water (c. c.).....	1,400				<i>Mar. 4, 1911.</i>				
Total.....	2,980	12.94	1.216		Cream of wheat.....	20	.40	.022	
<i>Mar. 2, 1911.</i>					Egg.....	55.3	1.14	.131	
Cream of wheat.....	20	.40	.022		Butter.....	60	.07	.013	
Egg.....	56	1.15	.133		Orange.....	142.5	.28	.038	
Butter.....	60	.07	.013		Cream.....	200	.76	.154	
Orange.....	197	.37	.053		Bread.....	250	3.93	.286	
Cream.....	200	.70	.161		Jelly (grape).....	50	.02	.008	
Bread.....	250	3.80	.225		Beef.....	160	5.89	.363	
Jelly (grape).....	50	.02	.008		Peas.....	150	.89	.118	
Veal.....	160	6.02	.384		Potato.....	160	.59	.130	
Peas.....	150	.87	.092		Rice, steamed.....	100	.33	.027	
String beans.....	100	.24	.030		Pears.....	400	.24	.050	
Potato.....	160	.58	.069		Water (c. c.).....	1,400			
Peaches.....	400	.44	.070		Total.....	3,150	14.54	1.340	
Water (c. c.).....	1,400				<i>Mar. 5, 1911.</i>				
Total.....	3,200	14.66	1.260		Cream of wheat.....	20	.40	.022	
<i>Mar. 3, 1911.</i>					Egg.....	60.2	1.24	.143	
Oatmeal.....	20	.50	.093		Butter.....	60	.07	.013	
Egg.....	57.3	1.18	.136		Orange.....	138.5	.27	.037	
Butter.....	60	.07	.013		Cream.....	206	.76	.147	
					Bread.....	230	4.03	.247	

CHART I.—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Mar. 5, 1911—Con.</i>					<i>Mar. 9, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Jelly (grape).....	50	0.02	0.008	.....	Boiled potato.....	160	0.61	0.102	.....
Fowl.....	160	6.21	.375	.....	Peaches.....	400	.44	.070	.....
Peas.....	150	.86	.096	.....	Water (c. c.).....	1,400	.....	.....	.....
Celery.....	100	.17	.028	.....	Total.....	3,200	14.87	1.295	.....
Potato.....	160	.62	.102	.....	<i>Mar. 10, 1911.</i>				
Ice cream.....	300	1.11	.218	.....	Oatmeal.....	20	.50	.093	.....
Water (c. c.).....	1,400	.....	.....	.....	Egg.....	59.2	1.22	.140	.....
Total.....	3,050	15.76	1.436	.....	Butter.....	60	.07	.013	.....
<i>Mar. 6, 1911.</i>					Sliced bananas.....	80	.17	.021	.....
Oatmeal.....	20	.50	.093	.....	Cream.....	200	.74	.148	.....
Egg.....	58.8	1.21	.139	.....	Bread.....	250	4.23	.247	.....
Butter.....	60	.07	.013	.....	Jelly (grape).....	50	.02	.008	.....
Orange.....	156.5	.30	.042	.....	Lamb.....	160	5.33	.352	.....
Cream.....	200	.74	.148	.....	Peas.....	150	.80	.080	.....
Bread.....	250	4.03	.242	.....	Corn.....	100	.42	.068	.....
Jelly (grape).....	50	.02	.008	.....	Mashed potato.....	160	.66	.091	.....
Lamb.....	160	5.46	.357	.....	Cherries.....	300	.39	.059	.....
Peas.....	150	.84	.094	.....	Water (c. c.).....	1,400	.....	.....	.....
Beets.....	100	.26	.077	.....	Total.....	2,990	14.55	1.320	.....
Potato.....	160	.54	.098	.....	<i>Mar. 11, 1911.</i>				
Rice pudding.....	300	2.04	.359	.....	Cream of wheat.....	20	.40	.022	.....
Water (c. c.).....	1,400	.....	.....	.....	Egg.....	57.2	1.18	.136	.....
Total.....	3,070	16.01	1.670	.....	Butter.....	60	.07	.013	.....
<i>Mar. 7, 1911.</i>					Orange.....	202.5	.39	.055	.....
Cream of wheat.....	20	.40	.022	.....	Cream.....	200	.78	.152	.....
Egg.....	53.2	1.10	.126	.....	Bread.....	250	4.18	.240	.....
Butter.....	60	.07	.013	.....	Jelly (grape).....	50	.02	.008	.....
Orange.....	157	.30	.042	.....	Beef.....	160	5.98	.342	.....
Cream.....	200	.78	.152	.....	Peas.....	150	.81	.080	.....
Bread.....	250	4.15	.240	.....	Mashed potato.....	160	.61	.103	.....
Jelly (grape).....	50	.02	.008	.....	Rice, steamed.....	100	.35	.020	.....
Beef.....	160	5.57	.343	.....	Pears.....	400	.24	.050	.....
Peas.....	150	.84	.089	.....	Water (c. c.).....	1,400	.....	.....	.....
Lima beans.....	100	1.11	.099	.....	Total.....	3,210	15.01	1.221	.....
Potato.....	160	.51	.105	.....	<i>Mar. 12, 1911.</i>				
Strawberries.....	300	.54	.088	.....	Cream of wheat.....	20	.40	.022	.....
Water (c. c.).....	1,400	.....	.....	.....	Egg.....	62	1.28	.147	.....
Total.....	3,060	15.39	1.327	.....	Butter.....	60	.07	.013	.....
<i>Mar. 8, 1911.</i>					Orange.....	197	.37	.053	.....
Oatmeal.....	20	.50	.093	.....	Cream.....	200	.72	.143	.....
Egg.....	52.2	1.08	.124	.....	Bread.....	250	4.20	.249	.....
Butter.....	60	.07	.013	.....	Jelly (grape).....	50	.02	.008	.....
Sliced bananas.....	80	.16	.022	.....	Fowl.....	160	5.49	.331	.....
Cream.....	200	.76	.150	.....	Peas.....	150	.81	.080	.....
Bread.....	250	4.20	.258	.....	Celery.....	100	.14	.034	.....
Jelly (currant and raspberry).....	50	.02	.004	.....	Boiled potato.....	160	.62	.106	.....
Fowl.....	160	6.27	.357	.....	Ice cream.....	300	1.11	.197	.....
Peas.....	150	.87	.093	.....	Water (c. c.).....	1,200	.....	.....	.....
Hominy.....	100	.37	.014	.....	Total.....	2,910	15.23	1.383	.....
Sweet potato.....	160	.35	.067	.....	<i>Mar. 13, 1911.</i>				
Water ice.....	300	.03	.017	.....	Oatmeal.....	20	.50	.093	.....
Water (c. c.).....	1,400	.....	.....	.....	Egg.....	58.3	1.20	.138	.....
Total.....	2,980	14.68	1.212	.....	Butter.....	60	.07	.013	.....
<i>Mar. 9, 1911.</i>					Orange.....	170	.32	.046	.....
Cream of wheat.....	20	.40	.022	.....	Cream.....	200	.74	.148	.....
Egg.....	60.7	1.25	.144	.....	Bread.....	250	4.15	.242	.....
Butter.....	60	.07	.013	.....	Jelly (grape).....	50	.02	.008	.....
Orange.....	192.3	.36	.052	.....	Lamb.....	160	5.33	.331	.....
Cream.....	200	.78	.148	.....	Peas.....	150	.81	.083	.....
Bread.....	250	4.18	.245	.....	Beets.....	100	.27	.086	.....
Jelly (currant and raspberry).....	50	.02	.004	.....	Mashed potato.....	160	.58	.099	.....
Veal.....	160	5.71	.387	.....	Rice pudding.....	300	2.16	.420	.....
Peas.....	150	.78	.084	.....	Water (c. c.).....	1,400	.....	.....	.....
String beans.....	100	.27	.024	.....	Total.....	3,080	16.15	1.707	.....

CHART I.—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 14, 1911.</i>					<i>Mar. 18, 1911.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	20	0.40	0.022	.....	Cream of wheat....	20	0.40	0.022	.....
Egg.....	63	1.30	.149	.....	Egg.....	61.1	1.26	.145	.....
Butter.....	60	.07	.013	.....	Butter.....	60	.07	.013	.....
Orange.....	190.3	.36	.051	.....	Orange.....	153.5	.30	.041	.....
Cream.....	200	.76	.150	.....	Cream.....	200	.74	.150	.....
Bread.....	250	4.15	.232	.....	Bread.....	250	4.00	.227	.....
Jelly (currant and raspberry).....	50	.02	.004	.....	Jelly (crab apple)..	50	.01	.003	.....
Beef.....	160	5.41	.327	.....	Beef.....	160	5.82	.327	.....
Peas.....	150	.81	.084	.....	Peas.....	150	1.04	.119	0.0164
Lima beans.....	100	1.24	.102	.....	Boiled potato.....	160	.51	.095	.....
Boiled potato.....	160	.54	.055	.....	Rice, steamed.....	100	.27	.032	.....
Strawberries.....	300	.42	.088	.....	Pears.....	400	.24	.050	.....
Water (c. c.).....	1,400	.....	.....	.....	Water (c. c.).....	1,400	.....	.....	.....
Total.....	3,100	15.48	1.317	.....	Total.....	3,170	14.66	1.224	.0164
<i>Mar. 15, 1911.</i>					<i>Mar. 19, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat....	20	.40	.022	.....
Egg.....	59	1.22	.140	.....	Egg.....	57.1	1.18	.135	.....
Butter.....	60	.07	.013	.....	Butter.....	60	.07	.013	.....
Sliced bananas.....	80	.15	.030	.....	Orange.....	135	.26	.036	.....
Cream.....	200	.74	.155	.....	Cream.....	200	.76	.150	.....
Bread.....	250	4.33	.238	.....	Bread.....	250	4.15	.225	.....
Jelly (currant and raspberry).....	50	.02	.004	.....	Jelly (currant and raspberry).....	50	.02	.004	.....
Fowl.....	160	5.68	.343	.....	Fowl.....	160	6.03	.325	.....
Peas.....	150	1.14	.119	0.0171	Peas.....	150	1.16	.125	.0168
Hominy.....	100	.33	.011	.....	Celery.....	100	.19	.049	.....
Sweet potato.....	160	.40	.059	.....	Boiled potato.....	160	.59	.116	.....
Water ice.....	300	.03	.017	.....	Ice cream.....	300	1.14	.215	.....
Water (c. c.).....	1,400	.....	.....	.....	Water (c. c.).....	1,400	.....	.....	.....
Total.....	2,990	14.61	1.222	.0171	Total.....	3,040	15.95	1.415	.0168
<i>Mar. 16, 1911.</i>					<i>Mar. 20, 1911.</i>				
Oatmeal.....	62.9	1.30	.149	.....	Oatmeal.....	20	.50	.093	.....
Cream of wheat....	20	.40	.022	.....	Egg.....	57.2	1.18	.136	.....
Butter.....	60	.07	.013	.....	Butter.....	60	.07	.013	.....
Orange.....	178.5	.34	.048	.....	Orange.....	148.5	.29	.040	.....
Cream.....	200	.76	.155	.....	Cream.....	200	.78	.152	.....
Bread.....	250	4.18	.232	.....	Bread.....	250	4.23	.225	.....
Jelly (crab apple)..	50	.02	.003	.....	Jelly (currant and raspberry).....	50	.02	.004	.....
Veal.....	160	5.73	.363	.....	Lamb.....	160	5.47	.336	.....
Peas.....	150	1.11	.119	.0190	Peas.....	150	1.14	.125	.0165
String beans.....	100	.27	.028	.....	Beets.....	100	.42	.064	.....
Boiled potato.....	160	.66	.097	.....	Mashed potato.....	160	.51	.078	.....
Peaches.....	400	.44	.070	.....	Rice pudding.....	300	2.46	.380	.....
Water (c. c.).....	1,400	.....	.....	.....	Water (c. c.).....	1,400	.....	.....	.....
Total.....	3,190	15.28	1.299	.0180	Total.....	3,060	17.07	1.646	.0165
<i>Mar. 17, 1911.</i>					<i>Mar. 21, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat....	20	.40	.022	.....
Egg.....	67.7	1.39	.160	.....	Egg.....	57.6	1.18	.136	.....
Butter.....	60	.07	.013	.....	Butter.....	60	.07	.013	.....
Sliced bananas.....	80	.18	.017	.....	Orange.....	169.5	.32	.046	.....
Cream.....	200	.76	.150	.....	Cream.....	200	.82	.159	.....
Bread.....	250	4.15	.229	.....	Bread.....	250	4.20	.227	.....
Jelly (crab apple)..	50	.01	.003	.....	Jelly (crab apple)..	50	.01	.003	.....
Lamb.....	160	5.25	.336	.....	Beef.....	160	6.29	.343	.....
Peas.....	150	1.11	.130	.0191	Peas.....	150	1.14	.123	.0179
Corn.....	100	.33	.062	.....	Lima beans.....	100	1.27	.100	.....
Mashed potato.....	160	.58	.115	.....	Boiled potato.....	160	.56	.112	.....
Cherries.....	290	.38	.057	.....	Strawberries.....	300	.63	.088	.....
Water (c. c.).....	1,400	.....	.....	.....	Water (c. c.).....	1,400	.....	.....	.....
Total.....	2,990	14.71	1.365	.0191	Total.....	3,080	16.89	1.372	.0179

CHART I.—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 22, 1911.</i>					<i>Mar. 26, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	Orange.....	150	0.29	0.041	.....
Egg.....	64.9	1.34	.154	.....	Cream.....	200	.78	.148	.....
Butter.....	60	.07	.013	.....	Bread.....	250	4.03	.238	.....
Sliced bananas.....	80	.16	.017	.....	Jelly (grape).....	50	.02	.008	.....
Cream.....	200	.82	.150	.....	Fowl.....	160	5.82	.331	.....
Bread.....	250	4.28	.223	.....	Peas.....	150	1.08	.118	0.0183
Jelly (crab apple).....	50	.01	.003	.....	Celery.....	100	.21	.046	.....
Fowl.....	160	6.18	.314	.....	Boiled potato.....	160	.66	.081	.....
Peas.....	150	1.11	.128	0.0165	Ice cream.....	300	1.14	.210	.....
Hominy.....	100	.38	.011	.....	Water (c. c.).....	1,400	.....	.....	.....
Sweet potato.....	160	.40	.063	.....	Total.....	3,060	15.68	1.392	.0183
Water ice.....	300	.03	.017	.....	<i>Mar. 27, 1911.</i>				
Water (c. c.).....	1,400	.....	.....	.....	Oatmeal.....	20	.50	.093	.....
Total.....	3,000	15.28	1.186	.0165	Egg.....	56.5	1.16	.134	.....
<i>Mar. 23, 1911.</i>					Butter.....	60	.07	.013	.....
Cream of wheat.....	20	.40	.022	.....	Orange.....	160	.30	.043	.....
Egg.....	48.4	1.00	.115	.....	Cream.....	200	.78	.152	.....
Butter.....	60	.07	.013	.....	Bread.....	250	4.08	.232	.....
Orange.....	163	.31	.044	.....	Jelly (raspberry	50	.02	.004	.....
Cream.....	200	.72	.141	.....	and currant).....	160	6.05	.342	.....
Bread.....	250	4.08	.232	.....	Lamb.....	150	1.08	.128	.0162
Jelly (currant and	50	.02	.004	.....	Peas.....	100	.36	.054	.....
raspberry).....	160	6.32	.367	.....	Mashed potato.....	160	.51	.105	.....
Veal.....	150	1.11	.128	.0147	Rice pudding.....	300	1.89	.312	.....
Peas.....	100	.26	.026	.....	Water (c. c.).....	1,400	.....	.....	.....
Boiled potato.....	160	.64	.115	.....	Total.....	3,070	16.80	1.612	.0162
Peaches.....	400	.44	.070	.....	<i>Mar. 28, 1911.</i>				
Water (c. c.).....	1,400	.....	.....	.....	Cream of wheat.....	20	.40	.022	.....
Total.....	3,160	15.37	1.277	.0147	Egg.....	52.2	1.08	.124	.....
<i>Mar. 24, 1911.</i>					Butter.....	60	.07	.013	.....
Oatmeal.....	20	.50	.093	.....	Orange.....	145	.28	.039	.....
Egg.....	64	1.32	.152	.....	Cream.....	200	.76	.150	.....
Butter.....	60	.07	.013	.....	Bread.....	250	4.20	.238	.....
Sliced bananas.....	80	.14	.019	.....	Jelly (raspberry	50	.02	.004	.....
Cream.....	200	.78	.148	.....	and currant).....	160	6.50	.339	.....
Bread.....	250	3.98	.227	.....	Beef.....	150	1.11	.127	.0173
Jelly (currant and	50	.02	.004	.....	Peas.....	100	1.29	.093	.....
raspberry).....	160	6.14	.339	.....	Lima beans.....	160	.48	.101	.....
Lamb.....	150	1.14	.123	.0170	Mashed potato.....	300	.42	.088	.....
Peas.....	100	.39	.069	.....	Water (c. c.).....	1,400	.....	.....	.....
Corn.....	160	.58	.105	.....	Total.....	3,050	16.41	1.338	.0173
Mashed potato.....	300	.39	.059	.....	<i>Mar. 29, 1911.</i>				
Cherries.....	1,400	.....	.....	.....	Oatmeal.....	20	.50	.093	.....
Water (c. c.).....	1,400	.....	.....	.....	Egg.....	56	1.15	.133	.....
Total.....	2,990	15.45	1.351	.0170	Butter.....	60	.07	.013	.....
<i>Mar. 25, 1911.</i>					Sliced bananas.....	80	.18	.016	.....
Cream of wheat.....	20	.40	.022	.....	Cream.....	200	.82	.154	.....
Egg.....	42.7	.88	.101	.....	Bread.....	250	4.30	.232	.....
Butter.....	60	.07	.013	.....	Jelly (quince).....	50	.01	.003	.....
Orange.....	143.5	.28	.039	.....	Fowl.....	160	6.11	.343	.....
Cream.....	200	.78	.147	.....	Peas.....	150	1.14	.127	.0186
Bread.....	250	3.93	.229	.....	Hominy.....	100	.39	.013	.....
Jelly (grape).....	50	.02	.008	.....	Sweet potato.....	160	.35	.060	.....
Beef.....	160	6.37	.339	.....	Water ice.....	300	.03	.017	.....
Peas.....	150	1.17	.126	.0179	Water (c. c.).....	1,400	.....	.....	.....
Boiled potato.....	160	.50	.087	.....	Total.....	2,990	15.05	1.204	.0186
Rice, steamed.....	100	.34	.034	.....	<i>Mar. 30, 1911.</i>				
Pears.....	400	.24	.050	.....	Cream of wheat.....	20	.40	.022	.....
Water (c. c.).....	1,400	.....	.....	.....	Egg.....	53	1.09	.126	.....
Total.....	3,140	14.98	1.195	.0179	Butter.....	60	.07	.013	.....
<i>Mar. 26, 1911.</i>					Orange.....	180	.34	.049	.....
Cream of wheat.....	20	.40	.022	.....	Cream.....	200	.74	.152	.....
Egg.....	57.2	1.18	.136	.....	Bread.....	250	4.00	.218	.....
Butter.....	60	.07	.013	.....				

CHART I.—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Mar. 30, 1911—Con.</i>					<i>Apr. 3, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Jelly (currant and raspberry).....	50	0.02	0.004	.....	Rice pudding.....	300	1.95	0.325	.....
Veal.....	160	5.81	.387	.....	Water (c. c.).....	1,400	.....	.....	.....
Peas.....	130	1.11	.125	0.0156	Total.....	3,070	17.11	1.627	0.0147
String beans.....	100	.27	.027	.....	<i>Apr. 4, 1911.</i>				
Boiled potato.....	160	.46	.110	.....	Cream of wheat.....	20	.40	.022	.....
Peaches.....	400	.44	.070	.....	Egg.....	59.2	1.22	.140	.....
Water (c. c.).....	1,400	.....	.....	.....	Butter.....	60	.07	.013	.....
Total.....	3,180	14.75	1.303	.0156	Orange.....	142.5	.28	.038	.....
<i>Mar. 31, 1911.</i>					Cream.....	200	.78	.150	.....
Oatmeal.....	20	.50	.093	.....	Bread.....	250	4.10	.232	.....
Egg.....	64.5	1.33	.153	.....	Jelly (quince).....	50	.01	.003	.....
Butter.....	60	.07	.013	.....	Beef.....	160	6.51	.343	.....
Orange.....	166	.31	.045	.....	Peas.....	150	1.04	.125	.0146
Cream.....	200	.72	.155	.....	Lima beans.....	100	1.37	.110	.....
Bread.....	250	3.90	.234	.....	Boiled potato.....	160	.45	.096	.....
Jelly (currant and raspberry).....	50	.02	.004	.....	Strawberries.....	300	.48	.088	.....
Lamb.....	160	5.78	.336	.....	Water (c. c.).....	1,400	.....	.....	.....
Peas.....	150	1.14	.127	.0176	Total.....	3,050	16.71	1.360	.0146
Corn.....	100	.36	.066	.....	<i>Apr. 5, 1911.</i>				
Mashed potato.....	160	.45	.096	.....	Oatmeal.....	20	.50	.093	.....
Cherries.....	308	.40	.061	.....	Egg.....	56.3	1.16	.133	.....
Water (c. c.).....	1,400	.....	.....	.....	Butter.....	60	.07	.013	.....
Total.....	3,090	14.98	1.383	.0176	Sliced bananas.....	80	.15	.021	.....
<i>Apr. 1, 1911.</i>					Cream.....	200	.70	.150	.....
Cream of wheat.....	20	.40	.022	.....	Bread.....	250	4.13	.223	.....
Egg.....	54.6	1.12	.129	.....	Jelly (currant and raspberry).....	50	.02	.004	.....
Butter.....	60	.07	.013	.....	Fowl.....	160	6.06	.346	.....
Sliced bananas.....	80	.14	.027	.....	Peas.....	200	1.54	.168	.0218
Cream.....	200	.76	.147	.....	Hominy.....	100	.37	.011	.....
Bread.....	250	3.70	.212	.....	Sweet potato.....	160	.27	.069	.....
Jelly (quince).....	50	.02	.003	.....	Water ice.....	300	.03	.017	.....
Beef.....	160	6.32	.343	.....	Water (c. c.).....	1,400	.....	.....	.....
Peas.....	150	1.11	.123	.0180	Total.....	3,040	15.00	1.248	.0218
Boiled potato.....	160	.56	.073	.....	<i>Apr. 6, 1911.</i>				
Rice, steamed.....	100	.28	.020	.....	Cream of wheat.....	20	.40	.022	.....
Pears.....	400	.24	.050	.....	Egg.....	60.2	1.24	.143	.....
Water (c. c.).....	1,400	.....	.....	.....	Butter.....	60	.07	.013	.....
Total.....	3,090	14.72	1.162	.0180	Orange.....	156	.30	.042	.....
<i>Apr. 2, 1911.</i>					Cream.....	200	.76	.150	.....
Cream of wheat.....	20	.40	.022	.....	Bread.....	250	3.75	.227	.....
Egg.....	60.2	1.24	.143	.....	Jelly (quince).....	50	.01	.003	.....
Butter.....	60	.07	.013	.....	Veal.....	160	5.87	.367	.....
Orange.....	190	.36	.051	.....	Peas.....	200	1.54	.164	.0242
Cream.....	200	.76	.152	.....	String beans.....	100	.27	.025	.....
Bread.....	250	3.90	.225	.....	Boiled potato.....	160	.59	.067	.....
Jelly (crab apple).....	50	.01	.003	.....	Peaches.....	400	.44	.070	.....
Fowl.....	160	6.02	.322	.....	Water (c. c.).....	1,400	.....	.....	.....
Peas.....	150	1.08	.123	.0167	Total.....	3,220	15.24	1.293	.0242
Celery.....	100	.17	.031	.....	<i>Apr. 7, 1911.</i>				
Boiled potato.....	160	.51	.108	.....	Oatmeal.....	20	.50	.093	.....
Ice cream.....	300	1.08	.215	.....	Egg.....	55.2	1.14	.131	.....
Water (c. c.).....	1,400	.....	.....	.....	Butter.....	60	.07	.013	.....
Total.....	3,100	15.00	1.408	.0167	Sliced bananas.....	80	.19	.023	.....
<i>Apr. 3, 1911.</i>					Cream.....	200	.70	.152	.....
Oatmeal.....	20	.50	.093	.....	Bread.....	250	4.33	.236	.....
Egg.....	54.1	1.18	.135	.....	Jelly (apple).....	50	.01	.003	.....
Butter.....	60	.07	.013	.....	Lamb.....	160	5.76	.339	.....
Orange.....	164.2	.31	.044	.....	Peas.....	200	1.48	.173	.0226
Cream.....	200	.78	.148	.....	Corn.....	100	.35	.070	.....
Bread.....	250	3.98	.227	.....	Mashed potato.....	160	.48	.102	.....
Jelly (grape).....	50	.02	.003	.....	Cherries.....	310	.40	.061	.....
Lamb.....	160	6.46	.370	.....	Water (c. c.).....	1,400	.....	.....	.....
Peas.....	150	1.17	.127	.0147	Total.....	3,050	15.41	1.396	.0226
Beets.....	100	.23	.043	.....				
Mashed potato.....	160	.46	.094	.....				

CHART I.—Diet—Continued.

SUBJECT No. 3—Continued.

Food.	Amount.	Nitrogen.	Phosphorus.	Copper.	Food.	Amount.	Nitrogen.	Phosphorus.	Copper.
<i>Apr. 8, 1911.</i>					<i>Apr. 12, 1911—Con.</i>				
<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	
Cream of wheat....	20	0.40	0.022	.....	Peas.....	200	1.48	0.173	0.0234
Egg.....	54.7	1.13	.130	.....	Hominy.....	100	.41	.014	.....
Butter.....	60	.07	.013	.....	Sweet potato.....	160	.26	.082	.....
Orange.....	120	.23	.032	.....	Water ice.....	300	.03	.017	.....
Cream.....	200	.76	.148	.....	Water (c. c.).....	1,400+	.....	.....	.....
Bread.....	250	3.95	.223	.....	Total.....	3,030	14.53	1.275	.0234
Jelly (crab apple)...	50	.02	.003	.....	<i>Apr. 13, 1911.</i>				
Beef.....	160	6.24	.343	.....	Cream of wheat....	20	.40	.022	.....
Peas.....	200	1.48	.166	0.0210	Egg.....	60	1.24	.142	.....
Boiled potato.....	160	.53	.113	.....	Butter.....	60	.07	.013	.....
Rice, steamed.....	100	.41	.032	.....	Orange.....	161	.30	.043	.....
Pears.....	400	.24	.050	.....	Cream.....	200	.74	.152	.....
Water (c. c.).....	1,400	.....	.....	.....	Bread.....	250	4.20	.229	.....
Total.....	3,180	15.46	1.275	.0210	Jelly (grape).....	50	.02	.008	.....
<i>Apr. 9, 1911.</i>					Veal.....	160	6.10	.363	.....
Cream of wheat....	20	.40	.022	.....	Peas.....	200	1.50	.161	.0230
Egg.....	54	1.11	.128	.....	String beans.....	100	.27	.026	.....
Butter.....	60	.07	.013	.....	Boiled potato.....	160	.37	.080	.....
Orange.....	140	.27	.038	.....	Peaches.....	400	.44	.070	.....
Cream.....	200	.80	.152	.....	Water (c. c.).....	1,400	.....	.....	.....
Bread.....	250	4.10	.227	.....	Total.....	3,220	15.95	1.309	.0230
Jelly (currant).....	50	.02	.004	.....	<i>Apr. 14, 1911.</i>				
Fowl.....	160	5.68	.333	.....	Oatmeal.....	20	.50	.093	.....
Peas.....	200	1.48	.161	.0236	Egg.....	57.4	1.18	.136	.....
Celery.....	100	.12	.036	.....	Butter.....	60	.07	.013	.....
Boiled potato.....	160	.38	.102	.....	Sliced bananas.....	80	.15	.023	.....
Ice cream.....	300	1.11	.218	.....	Cream.....	200	.86	.159	.....
Water (c. c.).....	1,400	.....	.....	.....	Bread.....	250	4.08	.234	.....
Total.....	3,090	15.54	1.434	.0236	Jelly (quince).....	50	.01	.003	.....
<i>Apr. 10, 1911.</i>					Lamb.....	160	5.33	.331	.....
Oatmeal.....	20	.50	.093	.....	Peas.....	200	1.50	.166	.0218
Egg.....	59.5	1.23	.141	.....	Corn.....	100	.40	.065	.....
Butter.....	60	.07	.013	.....	Mashed potato.....	160	.50	.094	.....
Orange.....	192	.36	.052	.....	Cherries.....	312	.40	.062	.....
Cream.....	200	.74	.143	.....	Water (c. c.).....	1,400	.....	.....	.....
Bread.....	250	3.70	.218	.....	Total.....	3,050	14.98	1.379	.0218
Jelly (crab apple)...	50	.01	.003	.....	<i>Apr. 15, 1911.</i>				
Lamb.....	160	5.97	.343	.....	Cream of wheat....	20	.40	.022	.....
Peas.....	200	1.50	.157	.0208	Egg.....	50.4	1.04	.119	.....
Beets.....	100	.33	.045	.....	Butter.....	60	.07	.013	.....
Mashed potato.....	160	.53	.096	.....	Orange.....	170	.32	.046	.....
Rice pudding.....	300	1.80	.320	.....	Cream.....	200	.78	.152	.....
Water (c. c.).....	1,400	.....	.....	.....	Bread.....	250	4.10	.238	.....
Total.....	3,150	16.74	1.624	.0208	Jelly (grape).....	50	.02	.008	.....
<i>Apr. 11, 1911.</i>					Beef.....	160	6.40	.357	.....
Cream of wheat....	20	.40	.022	.....	Peas.....	200	1.48	.169	.0186
Egg.....	56.7	1.17	.134	.....	Boiled potato.....	160	.46	.094	.....
Butter.....	60	.07	.013	.....	Rice, steamed.....	100	.36	.027	.....
Orange.....	169	.32	.046	.....	Pears.....	400	.24	.050	.....
Cream.....	200	.76	.147	.....	Water (c. c.).....	1,500	.....	.....	.....
Bread.....	250	4.10	.238	.....	Total.....	3,320	15.67	1.295	.0186
Jelly (grape).....	50	.02	.008	.....	<i>Apr. 16, 1911.</i>				
Beef.....	160	5.92	.336	.....	Cream of wheat....	20	.40	.022	.....
Peas.....	200	1.44	.159	.0232	Egg.....	57.1	1.18	.135	.....
Lima beans.....	100	1.27	.102	.....	Butter.....	60	.07	.013	.....
Boiled potato.....	160	.61	.095	.....	Orange.....	164	.31	.044	.....
Strawberries.....	300	.51	.088	.....	Cream.....	200	.70	.152	.....
Water (c. c.).....	1,400+	.....	.....	.....	Bread.....	250	4.03	.245	.....
Total.....	3,130	16.59	1.388	.0232	Jelly (apple).....	50	.02	.003	.....
<i>Apr. 12, 1911.</i>					Fowl.....	160	5.92	.339	.....
Oatmeal.....	20	.50	.093	.....	Peas.....	200	1.46	.173	.0202
Egg.....	53.2	1.10	.126	.....	Celery.....	100	.15	.031	.....
Butter.....	60	.07	.013	.....	Boiled potato.....	160	.38	.081	.....
Sliced bananas.....	80	.14	.031	.....	Ice cream.....	300	1.08	.223	.....
Cream.....	200	.76	.154	.....	Water (c. c.).....	1,400	.....	.....	.....
Bread.....	250	3.90	.238	.....	Total.....	3,120	15.70	1.461	.0202
Jelly (crab apple)...	50	.01	.003	.....				
Fowl.....	160	5.87	.331	.....				

CHART I.—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 17, 1911.</i>					<i>Apr. 21, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	Jelly (quince).....	50	.....	0.003	.....
Egg.....	56	1.15	.133	.....	Lamb.....	150	5.28	.335	.....
Butter.....	60	.07	.013	.....	Peas.....	300	2.22	.251	0.0234
Orange.....	159	.30	.043	.....	Mashed potato.....	160	.42	.090	.....
Cream.....	200	.76	.150	.....	Cherries.....	314	.41	.062	.....
Bread.....	250	3.88	.229	.....	Water (c. c.).....	1,400	.....	.....	.....
Jelly (quince).....	50	.01	.003	.....	Total.....	3,040	14.91	1.392	.0234
Lamb.....	160	6.51	.378	.....	<i>Apr. 22, 1911.</i>				
Peas.....	200	1.48	.164	0.0190	Cream of wheat.....	20	.40	.022	.....
Beets.....	100	.30	.067	.....	Egg.....	58.7	1.21	.139	.....
Mashed potato.....	160	.59	.116	.....	Butter.....	60	.07	.013	.....
Rice pudding.....	300	1.65	.330	.....	Orange.....	167.5	.32	.045	.....
Water (c. c.).....	1,400	.....	.....	.....	Cream.....	200	.66	.147	.....
Total.....	3,120	17.20	1.719	.0190	Bread.....	250	4.00	.238	.....
<i>Apr. 18, 1911.</i>					Jelly (currant).....	50	.02	.004	.....
Cream of wheat.....	20	.40	.022	.....	Beef.....	150	5.84	.315	.....
Egg.....	56	1.15	.133	.....	Peas.....	300	2.22	.239	.0243
Butter.....	60	.07	.013	.....	Boiled potato.....	160	.40	.096	.....
Orange.....	174	.33	.047	.....	Pears.....	400	.24	.050	.....
Cream.....	200	.74	.152	.....	Water (c. c.).....	1,400	.....	.....	.....
Bread.....	250	4.05	.240	.....	Total.....	3,220	15.38	1.308	.0243
Jelly (currant).....	50	.02	.004	.....	<i>Apr. 23, 1911.</i>				
Beef.....	160	5.84	.343	.....	Cream of wheat.....	20	.40	.022	.....
Peas.....	200	1.30	.166	.0218	Egg.....	52.2	1.08	.124	.....
Lima beans.....	100	1.32	.113	.....	Butter.....	60	.07	.013	.....
Boiled potato.....	160	.62	.076	.....	Orange.....	148	.29	.040	.....
Strawberries.....	300	.63	.088	.....	Cream.....	200	.72	.147	.....
Water (c. c.).....	1,400	.....	.....	.....	Bread.....	250	3.95	.229	.....
Total.....	3,130	16.47	1.397	.0218	Jelly (currant).....	50	.02	.004	.....
<i>Apr. 19, 1911.</i>					Fowl.....	150	5.39	.311	.....
Oatmeal.....	20	.50	.093	.....	Peas.....	300	2.13	.239	.0204
Egg.....	56	1.15	.133	.....	Potato.....	160	.45	.080	.....
Butter.....	60	.07	.013	.....	Ice cream.....	300	1.08	.210	.....
Sliced bananas.....	80	.14	.023	.....	Water (c. c.).....	1,400	.....	.....	.....
Cream.....	200	.78	.155	.....	Total.....	3,090	15.58	1.419	.0204
Bread.....	250	3.93	.223	.....	<i>Apr. 24, 1911.</i>				
Jelly (apple).....	50	.02	.003	.....	Oatmeal.....	20	.50	.093	.....
Fowl.....	160	5.73	.343	.....	Egg.....	54	1.11	.128	.....
Peas.....	200	1.10	.171	.0212	Butter.....	60	.07	.013	.....
Hominy.....	100	.43	.013	.....	Orange.....	163	.31	.044	.....
Sweet potato.....	160	.35	.096	.....	Cream.....	200	.76	.154	.....
Water ice.....	300	.03	.017	.....	Bread.....	250	3.60	.236	.....
Water (c. c.).....	1,400	.....	.....	.....	Jelly (currant).....	50	.02	.004	.....
Total.....	3,040	14.23	1.283	.0212	Lamb.....	150	5.27	.324	.....
<i>Apr. 20, 1911.</i>					Peas.....	300	2.34	.249	.0249
Cream of wheat.....	20	.40	.022	.....	Mashed potato.....	160	.48	.092	.....
Egg.....	56.2	1.16	.133	.....	Rice pudding.....	300	1.86	.315	.....
Butter.....	60	.07	.013	.....	Water (c. c.).....	1,400	.....	.....	.....
Orange.....	164	.31	.044	.....	Total.....	3,110	16.32	1.652	.0249
Cream.....	200	.72	.145	.....	<i>Apr. 25, 1911.</i>				
Bread.....	250	3.85	.234	.....	Cream of wheat.....	20	.40	.022	.....
Jelly (quince).....	50	.02	.003	.....	Egg.....	55.2	1.14	.131	.....
Veal.....	150	5.31	.360	.....	Butter.....	60	.07	.013	.....
Peas.....	300	1.71	.249	.0237	Orange.....	177	.33	.048	.....
Boiled potato.....	160	.38	.098	.....	Cream.....	200	.74	.148	.....
Peaches.....	400	.44	.070	.....	Bread.....	250	4.10	.242	.....
Water (c. c.).....	1,600	.....	.....	.....	Jelly (crab apple).....	50	.01	.003	.....
Total.....	3,410	14.37	1.371	.0237	Beef.....	150	5.33	.329	.0258
<i>Apr. 21, 1911.</i>					Peas.....	300	2.25	.246	.....
Oatmeal.....	20	.50	.093	.....	Boiled potato.....	160	.46	.101	.....
Egg.....	59	1.22	.140	.....	Strawberries.....	300	.63	.088	.....
Butter.....	60	.07	.013	.....	Water (c. c.).....	1,400	.....	.....	.....
Sliced bananas.....	80	.16	.018	.....	Total.....	3,120	15.46	1.371	.0258
Cream.....	200	.68	.147	.....				
Bread.....	250	3.95	.240	.....				

CHART I.—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>Apr. 26, 1911.</i>					<i>Apr. 30, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	Potato.....	160	0.53	0.092	.....
Egg.....	60.2	1.24	.143	.....	Ice cream.....	300	1.11	.210	.....
Butter.....	60	.07	.013	.....	Water (c. c.).....	1,700	.....	.....	.....
Sliced bananas.....	80	.15	.027	.....	Total.....	3,500	16.42	1.506	0.0264
Cream.....	200	.78	.154	.....	<i>May 1, 1911.</i>				
Bread.....	250	3.78	.234	.....	Oatmeal.....	20	.50	.093	.....
Jelly (grape).....	100	.04	.016	.....	Egg.....	56	1.15	.133	.....
Fowl.....	150	5.48	.324	.....	Butter.....	60	.07	.013	.....
Peas.....	300	2.28	.254	0.0255	Orange.....	160	.30	.043	.....
Sweet potato.....	160	.48	.091	.....	Cream.....	200	.74	.155	.....
Water ice.....	300	.03	.017	.....	Bread.....	250	3.83	.247	.....
Water (c. c.).....	1,600	.....	.....	.....	Jelly (currant).....	100	.04	.007	.....
Total.....	3,280	14.83	1.366	.0255	Lamb.....	150	5.40	.335	.....
<i>Apr. 27, 1911.</i>					Peas.....	300	2.19	.251	.0222
Cream of wheat.....	20	.40	.022	.....	Mashed potato.....	160	.50	.090	.....
Egg.....	56.5	1.16	.134	.....	Rice pudding.....	300	2.31	.330	.....
Butter.....	60	.07	.013	.....	Water (c. c.).....	1,700	.....	.....	.....
Orange.....	154.1	.30	.041	.....	Total.....	3,460	17.03	1.697	.0222
Cream.....	200	.74	.152	.....	<i>May 2, 1911.</i>				
Bread.....	250	3.88	.247	.....	Cream of wheat.....	20	.40	.022	.....
Jelly (crab apple).....	100	.04	.006	.....	Egg.....	57.9	1.19	.137	.....
Veal.....	150	5.57	.354	.....	Butter.....	60	.07	.013	.....
Peas.....	300	2.22	.246	.0288	Orange.....	174	.33	.047	.....
Boiled potato.....	160	.42	.087	.....	Cream.....	200	.86	.161	.....
Peaches.....	400	.44	.050	.....	Bread.....	250	4.05	.242	.....
Water (c. c.).....	1,600	.....	.....	.....	Jelly (grape).....	100	.04	.015	.....
Total.....	3,450	15.24	1.352	.0288	Beef.....	160	5.89	.336	.....
<i>Apr. 28, 1911.</i>					Peas.....	300	2.25	.251	.0276
Oatmeal.....	20	.50	.093	.....	Boiled potato.....	160	.42	.090	.....
Egg.....	63	1.30	.149	.....	Strawberries.....	300	.45	.088	.....
Butter.....	60	.07	.013	.....	Water (c. c.).....	1,600	.....	.....	.....
Sliced bananas.....	80	.18	.021	.....	Total.....	3,380	15.95	1.402	.0276
Cream.....	200	.78	.159	.....	<i>May 3, 1911.</i>				
Bread.....	250	4.00	.242	.....	Oatmeal.....	20	.50	.093	.....
Jelly (crab apple).....	100	.01	.006	.....	Egg.....	60	1.24	.142	.....
Lamb.....	150	5.61	.324	.....	Butter.....	60	.07	.013	.....
Peas.....	300	2.37	.262	.0177	Sliced bananas.....	80	.15	.031	.....
Mashed potato.....	160	.53	.096	.....	Cream.....	200	.76	.152	.....
Cherries.....	313	.40	.062	.....	Bread.....	250	4.25	.234	.....
Water (c. c.).....	1,700	.....	.....	.....	Jelly (crab apple).....	100	.01	.006	.....
Total.....	3,400	15.75	1.427	.0177	Fowl.....	150	5.43	.324	.....
<i>Apr. 29, 1911.</i>					Peas.....	300	2.13	.186	.0237
Cream of wheat.....	20	.40	.022	.....	String beans.....	150	.44	.055	.0074
Egg.....	50.5	1.04	.120	.....	Sweet potato.....	160	.29	.067	.....
Butter.....	60	.07	.013	.....	Water ice.....	300	.03	.017	.....
Orange.....	180.5	.34	.049	.....	Water (c. c.).....	1,700	.....	.....	.....
Cream.....	200	.74	.148	.....	Total.....	3,530	15.30	1.320	.0311
Bread.....	250	4.08	.240	.....	<i>May 4, 1911.</i>				
Jelly (currant).....	100	.04	.007	.....	Cream of wheat.....	20	.40	.022	.....
Beef.....	150	5.78	.311	.....	Egg.....	51.5	1.06	.122	.....
Peas.....	300	2.46	.265	.0276	Butter.....	60	.07	.013	.....
Boiled potato.....	160	.42	.091	.....	Orange.....	240	.43	.065	.....
Pears.....	400	.24	.050	.....	Cream.....	200	.76	.145	.....
Water (c. c.).....	1,700	.....	.....	.....	Bread.....	250	3.70	.227	.....
Total.....	3,570	15.61	1.316	.0276	Jelly (currant).....	100	.04	.007	.....
<i>Apr. 30, 1911.</i>					Veal.....	150	5.58	.363	.....
Cream of wheat.....	20	.40	.022	.....	Peas.....	300	2.13	.181	.0246
Egg.....	66	1.36	.156	.....	String beans.....	150	.42	.060	.0059
Butter.....	60	.07	.013	.....	Boiled potato.....	160	.43	.088	.....
Orange.....	189	.36	.051	.....	Peaches.....	400	.44	.070	.....
Cream.....	200	.76	.154	.....	Water (c. c.).....	1,700	.....	.....	.....
Bread.....	250	4.05	.238	.....	Total.....	3,780	15.46	1.363	.0305
Jelly (crab apple).....	100	.01	.006	.....				
Fowl.....	150	5.58	.318	.....				
Peas.....	300	2.19	.246	.0264					

CHART I—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 6, 1911.</i>					<i>May 9, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Oatmeal.....	20	0.50	0.093	.....	Peas.....	300	2.16	0.204	0.0276
Egg.....	57.7	1.19	.137	.....	String beans.....	150	.42	.056	.0060
Butter.....	60	.07	.013	.....	Boiled potato.....	160	.50	.113	.....
Sliced bananas.....	80	.16	.022	.....	Strawberries.....	300	.54	.088	.....
Cream.....	200	.80	.152	.....	Water (c. c.).....	1,600	.....	.....	.....
Bread.....	250	4.40	.236	.....	Total.....	3,560	16.70	1.419	.0336
Jelly (crab apple).....	100	.01	.006	.....	<i>May 10, 1911.</i>				
Lamb.....	150	5.43	.338	.....				
Peas.....	300	2.19	.186	0.0270	Oatmeal.....	20	.50	.093	.....
String beans.....	150	.44	.059	.0071	Egg.....	57.5	1.18	.136	.....
Mashed potato.....	160	.53	.092	.....	Butter.....	60	.07	.013	.....
Peaches.....	400	.44	.070	.....	Sliced bananas.....	80	.14	.021	.....
Water (c. c.).....	1,600	.....	.....	.....	Cream.....	200	.78	.135	.....
Total.....	3,530	16.16	1.404	.0341	Bread.....	250	4.00	.245	.....
<i>May 6, 1911.</i>					Jelly (currant).....	100	.04	.007	.....
					Fowl.....	150	5.52	.311	.....
Cream of wheat.....	20	.40	.022	.....	Peas.....	300	2.10	.175	.0201
Egg.....	58.5	1.21	.139	.....	String beans.....	150	.45	.059	.0074
Butter.....	60	.07	.013	.....	Sweet potato.....	160	.53	.088	.....
Orange.....	209	.40	.056	.....	Water ice.....	300	.03	.017	.....
Cream.....	200	.84	.151	.....	Water (c. c.).....	1,600	.....	.....	.....
Bread.....	250	4.15	.225	.....	Total.....	3,430	15.34	1.320	.0275
Jelly (grape).....	100	.04	.015	.....	<i>May 11, 1911.</i>				
Reef.....	150	5.73	.324	.....				
Peas.....	300	1.89	.189	.0249	Cream of wheat.....	20	.40	.022	.....
String beans.....	150	.48	.063	.0074	Egg.....	60	1.24	.142	.....
Boiled potato.....	160	.62	.108	.....	Butter.....	60	.07	.013	.....
Peas.....	400	.24	.050	.....	Orange.....	152	.29	.041	.....
Water (c. c.).....	1,600	.....	.....	.....	Cream.....	200	.74	.152	.....
Total.....	3,660	16.07	1.365	.0323	Bread.....	250	3.98	.240	.....
<i>May 7, 1911.</i>					Jelly (currant).....	100	.04	.007	.....
					Veal.....	150	5.93	.354	.....
Cream of wheat.....	20	.40	.022	.....	Peas.....	300	2.10	.189	.0234
Egg.....	52.2	1.08	.124	.....	String beans.....	150	.42	.060	.0072
Butter.....	60	.07	.013	.....	Boiled potato.....	160	.50	.091	.....
Orange.....	240	.43	.065	.....	Peaches.....	400	.44	.070	.....
Cream.....	200	.80	.159	.....	Water (c. c.).....	1,600	.....	.....	.....
Bread.....	250	4.18	.220	.....	Total.....	3,600	16.15	1.381	.0306
Jelly (grape).....	100	.04	.015	.....	<i>May 12, 1911.</i>				
Fowl.....	150	6.05	.321	.....				
Peas.....	300	2.10	.186	.0231	Oatmeal.....	20	.50	.093	.....
String beans.....	150	.47	.059	.0063	Egg.....	59.5	1.23	.141	.....
Boiled potato.....	160	.48	.102	.....	Butter.....	60	.07	.013	.....
Ice cream.....	300	1.02	.202	.....	Sliced bananas.....	80	.11	.024	.....
Water (c. c.).....	1,600	.....	.....	.....	Cream.....	200	.72	.150	.....
Total.....	3,580	17.12	1.488	.0294	Bread.....	250	4.03	.251	.....
<i>May 8, 1911.</i>					Jelly (quince).....	100	.01	.006	.....
					Lamb.....	150	5.81	.332	.....
Oatmeal.....	20	.50	.093	.....	Peas.....	300	2.22	.183	.0291
Egg.....	52.4	1.08	.124	.....	String beans.....	150	.45	.059	.0068
Butter.....	60	.07	.013	.....	Mashed potato.....	160	.51	.113	.....
Orange.....	214	.41	.058	.....	Peaches.....	400	.44	.070	.....
Cream.....	200	.74	.147	.....	Water (c. c.).....	1,800	.....	.....	.....
Bread.....	250	4.10	.251	.....	Total.....	3,730	16.10	1.435	.0359
Jelly (grape).....	100	.04	.015	.....	<i>May 13, 1911.</i>				
Lamb.....	150	5.57	.318	.....				
Peas.....	300	1.92	.181	.0219	Cream of wheat.....	20	.40	.022	.....
String beans.....	150	.48	.077	.0072	Egg.....	71	1.46	.168	.....
Mashed potato.....	160	.48	.103	.....	Butter.....	60	.07	.013	.....
Rice pudding.....	300	1.95	.322	.....	Orange.....	210	.40	.057	.....
Water (c. c.).....	1,600	.....	.....	.....	Cream.....	200	.66	.138	.....
Total.....	3,560	17.34	1.702	.0291	Bread.....	250	4.00	.242	.....
<i>May 9, 1911.</i>					Jelly (grape).....	100	.04	.015	.....
					Beef.....	150	5.87	.311	.....
Cream of wheat.....	20	.40	.022	.....	Peas.....	300	2.16	.197	.0246
Egg.....	52	1.07	.123	.....	String beans.....	150	.44	.058	.0078
Butter.....	60	.07	.013	.....	Boiled potato.....	160	.48	.103	.....
Orange.....	206	.39	.056	.....	Peas.....	400	.24	.050	.....
Cream.....	200	.74	.150	.....	Water (c. c.).....	1,800	.....	.....	.....
Bread.....	250	4.05	.251	.....	Total.....	3,870	16.22	1.374	.0324
Jelly (currant).....	100	.04	.007	.....				
Beef.....	160	6.32	.336	.....				

CHART I.—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 14, 1911.</i>					<i>May 18, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Cream of wheat....	20	0.40	0.022	.....	Cream.....	200	0.76	0.159	.....
Egg.....	54.4	1.12	.129	.....	Bread.....	250	4.05	.251	.....
Butter.....	60	.07	.013	.....	Jelly (crab apple)...	100	.01	.006	.....
Orange.....	204	.39	.055	.....	Veal.....	150	5.93	.351	.....
Cream.....	200	.76	.150	.....	Peas.....	300	1.65	.186	.....
Bread.....	250	4.08	.249	.....	String beans.....	150	.44	.052	.....
Jelly (grape).....	100	.04	.015	.....	Boiled potato.....	160	.35	.082	.....
Fowl.....	150	5.66	.311	.....	Peaches.....	400	.44	.070	.....
Peas.....	300	2.31	.183	0.0270	Water (c. c.).....	1,700	.....	.....	.....
String beans.....	150	.47	.063	.0072					
Boiled potato.....	160	.51	.105	.....	Total.....	3,770	15.56	1.371	.....
Ice cream.....	300	1.11	.225	.....				
Water (c. c.).....	1,800	.....	.....	.....	<i>May 19, 1911.</i>				
Total.....	3,750	16.92	1.520	.0342					
<i>May 15, 1911.</i>					Oatmeal.....	20	.50	.093	.....
					Egg.....	57.4	1.18	.136	.....
Oatmeal.....	20	.50	.093	.....	Butter.....	60	.07	.013	.....
Egg.....	55.6	1.14	.132	.....	Sliced bananas.....	80	.14	.020	.....
Butter.....	60	.07	.013	.....	Cream.....	200	.72	.159	.....
Orange.....	212	.40	.057	.....	Bread.....	250	4.08	.258	.....
Cream.....	200	.84	.155	.....	Jelly (crab apple)...	100	.04	.006	.....
Bread.....	250	3.90	.240	.....	Lamb.....	150	4.95	.306	.....
Jelly (currant).....	100	.04	.007	.....	Peas.....	300	1.65	.178	.....
Lamb.....	150	5.76	.321	.....	String beans.....	150	.42	.062	.....
Peas.....	300	2.28	.181	.0267	Mashed potato.....	160	.43	.088	.....
String beans.....	150	.48	.067	.0068	Peaches.....	400	.44	.070	.....
Mashed potato.....	160	.50	.094	.....	Water (c. c.).....	1,800	.....	.....	.....
Rice pudding.....	300	1.68	.309	.....				
Water (c. c.).....	1,800	.....	.....	.....	Total.....	3,730	14.62	1.389	.....
Total.....	3,760	17.59	1.669	.0345	<i>May 20, 1911.</i>				
<i>May 16, 1911.</i>									
					Cream of wheat....	20	.40	.022	.....
Cream of wheat....	20	.40	.022	.....	Egg.....	56	1.15	.133	.....
Egg.....	57.5	1.18	.136	.....	Butter.....	60	.07	.013	.....
Butter.....	60	.07	.013	.....	Orange.....	160	.30	.043	.....
Orange.....	200	.38	.054	.....	Cream.....	200	.82	.162	.....
Cream.....	200	.76	.154	.....	Bread.....	250	3.88	.258	.....
Bread.....	250	3.93	.245	.....	Jelly (currant).....	100	.04	.007	.....
Jelly (currant).....	100	.04	.007	.....	Beef.....	150	5.52	.335	.....
Beef.....	160	6.18	.336	.....	Peas.....	300	1.71	.189	.....
Peas.....	300	2.10	.191	.0270	String beans.....	150	.42	.067	.....
String beans.....	150	.44	.060	.0075	Boiled potato.....	160	.48	.113	.....
Boiled potato.....	160	.38	.113	.....	Pears.....	400	.24	.050	.....
Strawberries.....	300	.66	.088	.....	Water (c. c.).....	1,800	.....	.....	.....
Water (c. c.).....	1,700	.....	.....	.....		
Total.....	3,660	16.52	1.419	.0345	Total.....	3,810	15.03	1.392	.....
<i>May 17, 1911.</i>					<i>May 21, 1911.</i>				
Oatmeal.....	20	.50	.093	.....	Cream of wheat....	20	.40	.022	.....
Egg.....	51.5	1.06	.122	.....	Egg.....	48.5	1.00	.115	.....
Butter.....	60	.07	.013	.....	Butter.....	60	.07	.013	.....
Sliced bananas.....	80	.17	.026	.....	Orange.....	144.2	.28	.039	.....
Cream.....	200	.76	.154	.....	Cream.....	200	.78	.152	.....
Bread.....	250	3.95	.242	.....	Bread.....	250	4.23	.258	.....
Jelly (quince).....	100	.01	.006	.....	Jelly (crab apple)...	100	.01	.006	.....
Fowl.....	150	5.30	.302	.....	Fowl.....	150	5.79	.315	.....
Peas.....	300	1.68	.189	.....	Peas.....	300	1.71	.197	.....
String beans.....	150	.45	.064	.....	String beans.....	150	.44	.055	.....
Sweet potato.....	160	.40	.076	.....	Boiled potato.....	160	.59	.102	.....
Water ice.....	300	.03	.017	.....	Ice cream.....	300	1.08	.218	.....
Water (c. c.).....	1,700	.....	.....	.....	Water (c. c.).....	1,800	.....	.....	.....
Total.....	3,520	14.38	1.304	.....	Total.....	3,680	16.38	1.492	.....
<i>May 18, 1911.</i>					<i>May 22, 1911.</i>				
Cream of wheat....	20	.40	.022	.....	Oatmeal.....	20	.50	.093	.....
Egg.....	49.5	1.02	.117	.....	Egg.....	48	.99	.114	.....
Butter.....	60	.07	.013	.....	Butter.....	60	.07	.013	.....
Orange.....	230	.44	.062	.....	Orange.....	135	.26	.036	.....
					Cream.....	200	.76	.154	.....
					Bread.....	250	4.05	.251	.....
					Jelly (quince).....	100	.01	.006	.....
					Lamb.....	150	4.89	.311	.....

CHART I.—Diet—Continued.

SUBJECT No. 8—Continued.

Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.	Food.	Amount.	Nitro- gen.	Phos- phor- us.	Cop- per.
<i>May 22, 1911—Con.</i>					<i>May 26, 1911—Con.</i>				
	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>
Peas.....	300	1.80	0.191	.....	Peaches.....	400	0.44	0.070	.....
String beans.....	150	.45	.063	.....	Water (c. c.).....	1,700	.....	.....	.....
Mashed potato.....	160	.54	.090	.....	Total.....	3,620	15.15	1.265	.....
Rice pudding.....	300	1.86	.301	.....	<i>May 27, 1911.</i>				
Water (c. c.).....	1,800	.....	.....	.....	Oatmeal.....	20	.40	.093	.....
Total.....	3,670	16.18	1.623	.....	Egg.....	50.2	1.03	.119	.....
<i>May 23, 1911.</i>					Butter.....	60	.07	.013	.....
Cream of wheat.....	20	.40	.022	.....	Orange.....	69	.13	.019	.....
Egg.....	50.5	1.04	.120	.....	Cream.....	200	.74	.148	.....
Butter.....	60	.07	.013	.....	Bread.....	250	3.95	.247	.....
Orange.....	193	.37	.052	.....	Jelly (quince).....	100	.04	.006	.....
Cream.....	200	.74	.155	.....	Beef.....	150	6.23	.318	.....
Bread.....	250	3.93	.232	.....	Peas.....	300	1.80	.191	.....
Jelly (grape).....	100	.04	.015	.....	String beans.....	150	.41	.060	.....
Beef.....	160	6.50	.339	.....	Boiled potato.....	160	.59	.053	.....
Peas.....	300	1.83	.181	.....	Pears.....	400	.24	.050	.....
String beans.....	150	.45	.052	.....	Water (c. c.).....	1,700	.....	.....	.....
Boiled potato.....	160	.46	.080	.....	Total.....	3,610	15.63	1.317	.....
Strawberries.....	300	.54	.088	.....	<i>May 28, 1911.</i>				
Water (c. c.).....	1,700	.....	.....	.....	Cream of wheat.....	20	.40	.022	.....
Total.....	3,640	16.37	1.349	.....	Egg.....	52.4	1.08	.124	.....
<i>May 24, 1911.</i>					Butter.....	60	.07	.013	.....
Oatmeal.....	20	.50	.093	.....	Orange.....	245	.47	.066	.....
Egg.....	47.3	.97	.112	.....	Cream.....	200	.72	.157	.....
Butter.....	60	.07	.013	.....	Bread.....	250	4.00	.260	.....
Sliced bananas.....	80	.15	.022	.....	Jelly (currant).....	100	.04	.007	.....
Cream.....	200	.78	.155	.....	Fowl.....	150	5.57	.306	.....
Bread.....	250	4.15	.240	.....	Peas.....	300	1.62	.186	.....
Jelly (grape).....	100	.04	.015	.....	String beans.....	150	.45	.051	.....
Fowl.....	150	5.52	.302	.....	Boiled potato.....	160	.64	.061	.....
Peas.....	300	1.65	.189	.....	Ice cream.....	300	1.05	.199	.....
String beans.....	150	.45	.058	.....	Water (c. c.).....	1,700	.....	.....	.....
Sweet potato.....	160	.38	.081	.....	Total.....	3,690	16.11	1.452	.....
Water ice.....	300	.03	.017	.....	<i>May 29, 1911.</i>				
Water (c. c.).....	1,700	.....	.....	.....	Oatmeal.....	20	.50	.093	.....
Total.....	3,520	14.69	1.297	.....	Egg.....	42.7	.88	.101	.....
<i>May 25, 1911.</i>					Butter.....	60	.07	.013	.....
Cream of wheat.....	20	.40	.022	.....	Orange.....	159	.30	.043	.....
Egg.....	49.5	1.02	.117	.....	Cream.....	200	.76	.150	.....
Butter.....	60	.07	.013	.....	Bread.....	250	3.90	.236	.....
Orange.....	205	.39	.055	.....	Jelly (currant).....	100	.04	.007	.....
Cream.....	200	.78	.155	.....	Lamb.....	150	5.67	.332	.....
Bread.....	250	3.98	.238	.....	Peas.....	300	1.62	.202	.....
Jelly (grape).....	100	.04	.015	.....	String beans.....	150	.50	.051	.....
Veal.....	150	6.09	.351	.....	Mashed potato.....	160	.50	.056	.....
Peas.....	300	1.71	.202	.....	Rice pudding.....	300	2.34	.315	.....
String beans.....	150	.45	.054	.....	Water (c. c.).....	1,700	.....	.....	.....
Boiled potato.....	160	.61	.085	.....	Total.....	3,590	7.08	1.599	.....
Peaches.....	400	.44	.070	.....	<i>May 30, 1911.</i>				
Water (c. c.).....	1,700	.....	.....	.....	Cream of wheat.....	20	.40	.022	.....
Total.....	3,750	15.98	1.377	.....	Egg.....	40.5	.83	.096	.....
<i>May 26, 1911.</i>					Butter.....	60	.07	.013	.....
Cream of wheat.....	20	.40	.022	.....	Orange.....	170	.32	.046	.....
Egg.....	53.4	1.10	.127	.....	Cream.....	200	.76	.152	.....
Butter.....	60	.07	.013	.....	Bread.....	250	4.08	.242	.....
Sliced bananas.....	80	.14	.020	.....	Jelly (quince).....	100	.04	.006	.....
Cream.....	200	.76	.152	.....	Beef.....	160	6.22	.339	.....
Bread.....	250	4.05	.232	.....	Peas.....	300	1.56	.194	.....
Jelly (quince).....	100	.04	.006	.....	String beans.....	150	.45	.048	.....
Lamb.....	150	5.43	.324	.....	Boiled potato.....	160	.46	.059	.....
Peas.....	300	1.77	.194	.....	Strawberries.....	300	.54	.088	.....
String beans.....	150	.45	.052	.....	Water (c. c.).....	1,700	.....	.....	.....
Mashed potato.....	160	.50	.053	.....	Total.....	3,610	15.73	1.305	.....

CHART II.—*Total ingested matter, daily.*

SUBJECT No. 1 (E. H. B.).

Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.
	Gram.	Grams.		Gram.	Grams.		Gram.	Grams.
Mar. 1.....		3,370	Apr. 4.....		2,400	May 10.....		2,540
2.....		3,850	5.....		2,530	11.....		3,030
3.....		3,500	6.....		3,420	12.....		3,450
4.....		3,380	7.....		2,960	13.....		3,410
5.....		3,420	8.....		2,940	14.....		3,170
6.....		3,250	9.....		2,510	15.....		3,140
7.....		2,980	10.....		2,700	16.....		2,840
8.....		2,920	11.....		2,650			
9.....		3,620	12.....		2,460	17.....	20.0314	2,610
10.....		3,610	13.....		2,930	18.....	.0314	3,820
11.....		3,810	14.....		2,690	19.....	.0314	3,570
12.....		2,890	15.....		2,780	20.....	.0314	3,020
13.....		3,090	16.....		2,890	21.....	.0314	2,790
14.....		3,080	17.....		2,620	22.....	.0314	2,980
			18.....		2,690	23.....	.0314	3,050
15.....	0.0171	3,100	19.....		2,330			
16.....	.0180	3,460	20.....		2,750	24.....		2,810
17.....	.0191	3,500	21.....		2,590	25.....		3,430
18.....	.0164	3,360	22.....		2,890	26.....		3,190
19.....	.0168	3,060	23.....		2,570	27.....		3,240
20.....	.0165	3,030	24.....		2,770	28.....		3,290
21.....	.0179	3,530	25.....		2,530	29.....		3,010
22.....	.0165	3,150	26.....		2,370	30.....		2,840
23.....		680	27.....		2,980			
			28.....		2,490			
24.....		(1)	29.....		2,700			
25.....		(1)	30.....		2,420			
26.....		(1)	May 1.....		2,560			
27.....		(1)	2.....		2,620			
28.....		2,580	3.....		2,400	Mar. 1-14.....		3,340
29.....		2,280	4.....		2,710	Mar. 15-23.....	0.0170	2,990
30.....		3,020	5.....		2,760	Mar. 28-Apr. 19.....		2,700
31.....		2,870	6.....		2,830	Apr. 20-May 2.....		2,640
Apr. 1.....		2,740	7.....		2,610	May 3-16.....		2,870
2.....		2,520	8.....		2,730	May 17-23.....	2.0314	3,120
3.....		2,560	9.....		2,650	May 24-30.....		3,120

Summary: Average values.

1 Subject sick. Mar. 24-27.

2 Cu as CuSO₄ in milk.

CHART II.—Total ingested matter, daily—Continued.

SUBJECT No. 2 (M. R. B.).

Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.
	<i>Gram.</i>	<i>Grams.</i>		<i>Gram.</i>	<i>Grams.</i>		<i>Gram.</i>	<i>Grams.</i>
Mar. 1.....		3,240	Apr. 4.....	0.0146	3,280	May 9.....	0.0198	4,090
2.....		3,310	5.....	.0164	3,140	10.....	.0175	3,000
3.....		3,420	6.....	.0182	3,460	11.....	.0189	4,530
4.....		3,570	7.....	.0170	4,520	12.....	.0214	4,120
5.....		3,040	8.....	.0158	3,250	13.....	.0201	4,240
6.....		3,070	9.....	.0177	3,010	14.....	.0207	3,020
7.....		3,970	10.....	.0156	3,720	15.....	.0202	4,630
8.....		2,890	11.....	.0174	3,980	16.....	.0210	3,330
9.....		3,240	12.....	.0176	3,140	17.....		2,990
10.....		2,610	13.....	.0173	3,250	18.....		3,660
11.....		3,030	14.....	.0164	3,300	19.....		3,660
12.....		2,950	15.....	.0140	3,530	20.....		3,700
13.....		3,100	16.....	.0152	3,370	21.....		3,260
14.....		2,720	17.....	.0143	3,000	22.....		3,310
15.....	0.0171	2,680	18.....	.0164	3,190	23.....		3,360
16.....	.0180	3,040	19.....	.0159	2,910	24.....		2,940
17.....	.0191	3,100	20.....	.0119	3,280	25.....		3,520
18.....	.0164	3,550	21.....	.0117	3,080	26.....		3,100
19.....	.0168	3,200	22.....	.0122	3,530	27.....		3,330
20.....	.0165	3,060	23.....	.0102	3,230	28.....		3,170
21.....	.0179	3,040	24.....	.0125	3,090	29.....		3,500
22.....	.0165	2,900	25.....	.0129	3,760	30.....		3,480
23.....	.0147	3,030	26.....	.0128	3,870			
24.....	.0170	3,080	27.....	.0144	3,520			
25.....	.0179	3,290	28.....	.0089	3,570			
26.....	.0183	3,700	29.....	.0138	4,250			
27.....	.0162	3,510	30.....	.0132	3,010			
28.....	.0173	4,020	May 1.....	.0111	3,530	Summary: Average values.		
29.....	.0186	3,130	2.....	.0138	3,790			
30.....	.0156	3,570	3.....	.0193	2,840	Mar. 1-14.....		3,150
31.....	.0176	3,100	4.....	.0182	3,520	Mar. 15-Apr. 4..	0.0169	3,250
Apr. 1.....	.0180	3,720	5.....	.0206	3,420	Apr. 5-18.....	.0164	3,420
2.....	.0167	3,070	6.....	.0199	3,600	Apr. 19-May 2..	.0125	3,460
3.....	.0147	3,260	7.....	.0179	3,160	May 3-16.....	.0196	3,640
			8.....	.0182	3,400	May 17-30.....		3,360

CHART II.—*Total ingested matter, daily*—Continued.

SUBJECT No. 3 (O. H. C.).

Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.
	<i>Gram.</i>	<i>Grams.</i>		<i>Gram.</i>	<i>Grams.</i>		<i>Gram.</i>	<i>Grams.</i>
Mar. 1.....		2, 220	Apr. 4.....	0. 0146	2, 420	May 9.....	0. 0198	2, 770
2.....		2, 210	5.....	.0164	2, 220	10.....	. 5175	2, 970
3.....		2, 220	6.....	.0182	2, 320	11.....	.0189	3, 170
4.....		2, 220	7.....	.0170	2, 320	12.....	.0214	3, 270
5.....		2, 230	8.....	.0158	2, 220	13.....	.0201	3, 370
6.....		2, 220	9.....	.0177	2, 320	14.....	.0207	2, 740
7.....		2, 220	10.....	.0156	2, 420	15.....	.0202	2, 670
8.....		2, 210	11.....	.0174	2, 320	16.....	.0210	1, 970
9.....		2, 220	12.....	.0176	2, 320			
10.....		2, 230	13.....	.0173	2, 520	17.....		2, 780
11.....		2, 220	14.....	.0164	2, 370	18.....		2, 870
12.....		2, 220	15.....	.0140	2, 380	19.....		3, 080
13.....		2, 220	16.....	.0152	2, 420	20.....		2, 820
14.....		2, 230	17.....	.0143	2, 520	21.....		2, 970
15.....		2, 220	18.....	.0164	2, 420	22.....		3, 070
16.....		2, 220	19.....	.0159	2, 420	23.....		2, 070
17.....		2, 080	20.....	.0119	2, 420	24.....		2, 770
18.....		2, 230	21.....	.0117	2, 320	25.....		2, 770
19.....		2, 200	22.....	.0122	2, 420	26.....		2, 980
20.....		2, 220	23.....	.0102	2, 470	27.....		2, 870
21.....		1, 900	24.....	.0125	2, 720	28.....		2, 770
22.....		2, 220	25.....	.0129	2, 620	29.....		2, 870
23.....		2, 220	26.....	.0128	2, 920	30.....		2, 170
24.....		2, 220	27.....	.0144	2, 920			
25.....		2, 220	28.....	.0089	2, 810			
26.....		2, 220	29.....	.0138	2, 720			
27.....		2, 300	30.....	.0132	2, 720			
			May 1.....	.0111	2, 720			
28.....	0. 0173	2, 350	2.....	.0138	2, 670			
29.....	.0186	2, 420	3.....	.0193	2, 820	Mar. 1-14.....		2, 220
30.....	.0156	2, 520	4.....	.0182	2, 770	Mar. 15-27.....		2, 190
31.....	.0176	2, 570	5.....	.0206	2, 770	Mar. 28-Apr. 11.....	0. 0167	2, 370
Apr. 1.....	.0180	2, 420	6.....	.0199	2, 120	Apr. 12-May 2.....	.0137	2, 560
2.....	.0167	2, 220	7.....	.0179	2, 670	May 3-16.....	.0196	2, 750
3.....	.0147	2, 420	8.....	.0182	2, 470	May 17-30.....		2, 780

Summary: Average values.

CHART II.—*Total ingested matter, daily*—Continued.

SUBJECT No. 4 (E. S. F.).

Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.
	<i>Gram.</i>	<i>Grams.</i>		<i>Gram.</i>	<i>Grams.</i>		<i>Gram.</i>	<i>Grams.</i>
Mar. 1.....		3,710	Apr. 6.....		3,770	May 12.....		4,200
2.....		3,150	7.....		3,520	13.....		4,020
3.....		3,680	8.....		3,370	14.....		3,510
4.....		3,160	9.....		3,480	15.....		3,650
5.....		3,160	10.....		3,640	16.....		3,200
6.....		3,280	11.....		3,320			
7.....		3,280	12.....		2,920	17.....	1 0.0314	2,840
8.....		3,610	13.....		3,320	18.....	1 0.0314	3,240
9.....		2,980	14.....		3,800	19.....	1 0.0314	3,750
10.....		3,580	15.....		2,430	20.....	1 0.0314	3,280
11.....		3,530	16.....		3,000	21.....	1 0.0314	3,030
12.....		3,180	17.....		3,290	22.....	1 0.0314	3,430
13.....		3,770	18.....		3,590	23.....	1 0.0314	3,230
14.....		3,370	19.....		4,170			
15.....		3,220	20.....		2,980	24.....		2,750
16.....		3,420	21.....		3,570	25.....		2,950
17.....		3,380	22.....		3,400	26.....		2,950
18.....		3,730	23.....		3,460	27.....		3,310
19.....		3,780	24.....		3,550	28.....		2,640
20.....		3,730	25.....		4,100	29.....		2,830
21.....		3,520	26.....		3,830	30.....		3,060
22.....		3,320	27.....		3,520			
23.....		2,400	28.....		3,080			
24.....		3,190	29.....		3,980			
25.....		2,100	30.....		3,410			
26.....		3,450	May 1.....		3,110			
27.....		3,870	2.....		2,870			
28.....		2,980	3.....		3,000			
29.....		2,220	4.....		3,520			
30.....		3,180	5.....		3,890			
31.....		3,290	6.....		3,640			
Apr. 1.....		2,430	7.....		3,110			
2.....		3,180	8.....		3,390			
3.....		3,400	9.....		3,500			
4.....		3,370	10.....		3,260			
5.....		3,290	11.....		3,560			

Summary: Average values.

Mar. 1-14.....	3,390
Mar. 15-Apr. 4.....	3,200
Apr. 5-18.....	3,340
Apr. 19-May 2.....	3,500
May 3-16.....	3,530
May 17-23.....	3,260
May 24-30.....	2,930

1 Cu as CuSO₄ in milk.

CHART II.—*Total ingested matter, daily*—Continued.

SUBJECT No. 5 (C. P. K.).

Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.
	Gram.	Grams.		Gram.	Grams.		Gram.	Grams.
Mar. 1.....		2,300	Apr. 5.....	0.0218	2,350	May 9.....	0.0336	2,980
2.....		2,620	6.....	.0242	2,890	10.....	.0275	2,730
3.....		2,520	7.....	.0226	2,770	11.....	.0306	3,300
4.....		2,650	8.....	.0210	2,750	12.....	.0359	3,310
5.....		2,480	9.....	.0236	2,490	13.....	.0324	3,220
6.....		2,540	10.....	.0208	2,660	14.....	.0342	2,760
7.....		2,670	11.....	.0232	2,700	15.....	.0335	2,960
8.....		2,340	12.....	.0234	2,460	16.....	.0345	2,990
9.....		2,630	13.....	.0230	2,700			
10.....		2,550	14.....	.0218	2,540	17.....		2,550
11.....		2,700	15.....	.0186	2,810	18.....		2,880
12.....		2,510	16.....	.0202	2,610	19.....		2,880
13.....		2,600	17.....	.0190	2,960	20.....		2,970
14.....		2,600	18.....	.0218	2,860	21.....		3,000
			19.....	.0212	2,460	22.....		3,140
15.....	0.0171	2,300	20.....		611	23.....		3,110
16.....	.0180	2,540				24.....		2,730
17.....	.0191	2,520	21.....			25.....		3,030
18.....	.0164	2,660	22.....			26.....		2,820
19.....	.0168	2,400	23.....			27.....		3,060
20.....	.0165	2,580	24.....			28.....		2,840
21.....	.0179	2,650	25.....			29.....		3,000
22.....	.0165	2,350				30.....		3,010
23.....	.0147	2,610	26.....	.0255	2,620			
24.....	.0170	2,530	27.....	.0288	3,290			
25.....	.0179	2,650	28.....	.0177	2,690			
26.....	.0183	2,430	29.....	.0276	3,420			
27.....	.0162	2,650	30.....	.0264	2,830			
28.....	.0173	2,610	May 1.....	.0222	2,930			
29.....	.0186	2,300	2.....	.0276	2,800			
30.....	.0156	2,620	3.....	.0311	2,640	Mar. 1-14.....		2,550
31.....	.0176	2,580	4.....	.0305	2,780	Mar. 15-Apr. 4.....	0.0169	2,530
Apr. 1.....	.0180	2,580	5.....	.0341	2,830	Apr. 5-20.....	.0217	2,670
2.....	.0167	2,440	6.....	.0323	2,890	Apr. 26-May 2.....	.0251	2,940
3.....	.0147	2,570	7.....	.0294	2,780	May 3-16.....	.0321	2,930
4.....	.0146	2,630	8.....	.0291	2,820	May 17-30.....		2,930

Summary: Average values.

¹ No peas eaten on Apr. 20.

CHART II.—Total ingested matter, daily—Continued.

SUBJECT No. 6 (W. C. T.).

Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.
	Gram.	Grams.		Gram.	Grams.		Gram.	Grams.
Mar. 1.....		2,460	Apr. 5.....	0.0164	2,710	May 10.....	0.0175	2,610
2.....		2,770	6.....	.0182	2,820	11.....	.0189	3,300
3.....		2,740	7.....	.0170	2,790	12.....	.0214	3,210
4.....		2,750	8.....	.0158	2,790	13.....	.0201	3,330
5.....		2,600	9.....	.0177	2,670	14.....	.0207	2,580
6.....		2,730	10.....	.0156	2,810	15.....	.0202	2,680
7.....		2,840	11.....	.0174	2,830	16.....	.0210	2,700
8.....		2,650	12.....	.0176	2,670	17.....		2,620
9.....		2,840	13.....	.0173	2,820	18.....		3,270
10.....		2,750	14.....	.0164	2,750	19.....		3,210
11.....		2,850	15.....	.0140	2,860	20.....		3,300
12.....		2,680	16.....	.0152	2,670	21.....		2,580
13.....		2,700	17.....	.0143	2,790	22.....		3,220
14.....			18.....	.0164	2,850	23.....		1,870
15.....			19.....	.0159	2,670	24.....		2,630
16.....			20.....	.0119	2,840	25.....		3,270
17.....			21.....	.0117	2,770	26.....		3,200
18.....			22.....	.0122	2,820	27.....		3,220
19.....			23.....	.0102	2,610	28.....		2,670
20.....			24.....	.0125	2,750	29.....		2,710
21.....			25.....	.0129	2,860	30.....		2,700
22.....	0.0165	2,670	26.....	.0128	2,630			
23.....	.0147	2,850	27.....	.0144	2,860			
24.....	.0170	2,730	28.....	.0089	2,790			
25.....	.0179	2,810	29.....	.0138	2,890			
26.....	.0183	2,660	30.....	.0132	2,650			
27.....	.0162	2,760	May 1.....	.0111	3,160			
28.....	.0173	2,590	2.....	.0138	2,900			
29.....	.0186	2,690	3.....	.0193	2,700			
30.....	.0173	2,820	4.....	.0182	2,800			
31.....	.0176	2,830	5.....	.0206	2,710			
Apr. 1.....	.0180	2,790	6.....	.0199	2,870			
2.....	.0167	2,720	7.....	.0179	2,580			
3.....	.0147	2,800	8.....	.0182	2,790			
4.....	.0146	2,880	9.....	.0198	2,750			

Summary: Average values.		
Mar. 1-13.....		2,720
Mar. 22-Apr. 4.....	0.0167	2,760
Apr. 5-18.....	.0164	2,770
Apr. 19-May 2.....	.0125	2,800
May 3-16.....	.0196	2,830
May 17-30.....		2,890

CHART II.—*Total ingested matter, daily*—Continued.

SUBJECT No. 7 (J. F. W.).

Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.
	Gram.	Grams.		Gram.	Grams.		Gram.	Grams.
Mar. 1.....		2, 190	Apr. 4.....	0. 0146	2, 250	May 8.....	0. 0315	3, 310
2.....		2, 280	5.....	.0218	2, 140	9.....	.0356	2, 330
3.....		2, 150	6.....	.0242	2, 610	10.....	.0299	2, 760
4.....		2, 220	7.....	.0226	2, 950	11.....	.0330	3, 870
5.....		2, 200	8.....	.0210	2, 340	12.....	.0381	3, 210
6.....		2, 400	9.....	.0236	2, 370	13.....	.0350	3, 270
7.....		2, 110	10.....	.0208	2, 650	14.....	.0366	3, 370
8.....		2, 180	11.....	.0232	2, 320	15.....	.0357	2, 970
9.....		2, 310	12.....	.0234	2, 140	16.....	.0370	3, 120
10.....		2, 180	13.....	.0230	2, 450	17.....		3, 160
11.....		2, 230	14.....	.0218	2, 270	18.....		3, 290
12.....		2, 390	15.....	.0186	2, 420	19.....		3, 110
13.....		2, 410	16.....	.0202	2, 400	20.....		2, 950
14.....		2, 140	17.....	.0190	2, 360	21.....		2, 900
15.....	0. 0171	2, 140	18.....	.0218	2, 910	22.....		3, 530
16.....	.0180	2, 270	19.....	.0212	2, 540	23.....		3, 080
17.....	.0191	2, 150	20.....	.0237	2, 250	24.....		2, 660
18.....	.0164	2, 420	21.....	.0234	2, 450	25.....		2, 770
19.....	.0168	2, 310	22.....	.0243	2, 760	26.....		2, 660
20.....	.0165	2, 500	23.....	.0204	2, 480	27.....		3, 870
21.....	.0179	2, 340	24.....	.0249	2, 450	28.....		2, 770
22.....	.0165	2, 190	25.....	.0258	2, 590	29.....		2, 940
23.....	.0147	2, 470	26.....	.0255	2, 790	30.....		2, 440
24.....	.0170	2, 170	27.....	.0288	2, 360			
25.....	.0179	2, 430	28.....	.0177	2, 860			
26.....	.0183	2, 410	29.....	.0276	2, 760			
27.....	.0162	2, 320	30.....	.0264	2, 530			
28.....	.0173	2, 430	May 1.....	.0222	3, 020			
29.....	.0186	2, 290	2.....	.0276	2, 730			
30.....	.0156	2, 240	3.....	.0335	2, 260			
31.....	.0176	2, 480	4.....	.0324	3, 020			
Apr. 1.....	.0180	2, 330	5.....	.0364	2, 510			
2.....	.0167	2, 340	6.....	.0347	2, 640			
3.....	.0147	2, 130	7.....	.0315	2, 580			

Summary: Average values.		
Mar. 1–Mar. 14.....		2, 246
Mar. 15–Apr. 4.....	0. 0169	2, 310
Apr. 5–Apr. 19.....	.0217	2, 460
Apr. 20–May 2.....	.0245	2, 620
May 3–May 16.....	.0344	2, 940
May 17–May 30.....		3, 010

CHART II.—Total ingested matter, daily—Continued.

SUBJECT No. 8 (M. W.).

Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.	Date (1911).	Copper in peas, etc., in- gested.	In- gested matter.
	<i>Gram.</i>	<i>Grams.</i>		<i>Gram.</i>	<i>Grams.</i>		<i>Gram.</i>	<i>Grams.</i>
Mar. 1.....		2,980	Apr. 4.....	0.0146	3,050	May 9.....	0.0336	3,560
2.....		3,200	5.....	.0218	3,040	10.....	.0275	3,430
3.....		2,990	6.....	.0242	3,220	11.....	.0306	3,600
4.....		3,150	7.....	.0226	3,050	12.....	.0359	3,730
5.....		3,050	8.....	.0210	3,180	13.....	.0324	3,870
6.....		3,070	9.....	.0236	3,090	14.....	.0342	3,750
7.....		3,060	10.....	.0208	3,150	15.....	.0335	3,760
8.....		2,980	11.....	.0232	3,130	16.....	.0345	3,660
9.....		3,200	12.....	.0234	3,030			
10.....		2,990	13.....	.0230	3,220	17.....		3,520
11.....		3,210	14.....	.0218	3,050	18.....		3,770
12.....		2,910	15.....	.0186	3,320	19.....		3,730
13.....		3,080	16.....	.0202	3,120	20.....		3,810
14.....		3,100	17.....	.0190	3,120	21.....		3,680
			18.....	.0218	3,130	22.....		3,670
15.....	0.0171	2,990	19.....	.0212	3,040	23.....		3,640
16.....	.0180	3,190	20.....	.0237	3,410	24.....		3,520
17.....	.0191	2,990	21.....	.0234	3,040	25.....		3,750
18.....	.0164	3,170	22.....	.0243	3,220	26.....		3,620
19.....	.0168	3,040	23.....	.0204	3,090	27.....		3,610
20.....	.0166	3,060	24.....	.0249	3,110	28.....		3,690
21.....	.0179	3,080	25.....	.0258	3,120	29.....		3,590
22.....	.0165	3,000	26.....	.0255	3,280	30.....		3,610
23.....	.0147	3,160	27.....	.0288	3,450			
24.....	.0170	2,990	28.....	.0177	3,400			
25.....	.0179	3,140	29.....	.0276	3,570			
26.....	.0183	3,060	30.....	.0294	3,500			
27.....	.0162	3,070	May 1.....	.0222	3,460	Summary: Average values.		
28.....	.0173	3,050	2.....	.0276	3,380			
29.....	.0186	2,990	3.....	.0311	3,530	Mar. 1-Mar. 14..		3,070
30.....	.0156	3,180	4.....	.0305	3,780	Mar. 15-Apr. 4..	0.0169	3,070
31.....	.0176	3,090	5.....	.0341	3,530	Apr. 5-Apr. 19..	.0217	3,130
Apr. 1.....	.0180	3,090	6.....	.0323	3,660	Apr. 20-May 2..	.0245	3,310
2.....	.0167	3,100	7.....	.0294	3,580	May 3-May 16..	.0321	3,640
3.....	.0147	3,070	8.....	.0291	3,560	May 17-May 30..		3,660

CHART III.—*Feces.*

SUBJECT No. 1 (E. H. B.).

Date (1911).	Average Cu ingested.	Total wet weight.	Total dry weight.	Per cent H ₂ O.	Average wet weight.	Average dry weight.	Total nitrogen.	Total phosphorus.	Average nitrogen.	Average phosphorus.	Total Cu eliminated.	Relation of dry to wet feces.
	Gm.	Gms.	Gms.	P. ct.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	P. ct.
Mar. 1-14.....		1,874	402.5	78.5	134	28.7	29.50	5.580	2.11	0.399	0.040	21.5
Mar. 15-23.....	0.0170	1,286	212.3	83.5	143	23.6	13.57	2.928	1.51	.325	.080	16.5
Mar. 24-27.....												
Mar. 28-Apr. 4.....		560	159.3	71.6	70	19.9	10.06	2.388	1.26	.298	.017	28.4
Apr. 5-19.....		1,114	353.7	68.2	74	23.6	23.77	5.062	1.58	.337	.018	31.8
Apr. 20-May 2.....		1,174	298.5	74.6	90	23.0	19.85	4.333	1.53	.333	.037	25.4
May 3-16.....		1,382	336.9	75.7	99	24.0	22.77	4.431	1.63	.316	.035	24.3
May 17-23.....		824	185.0	77.6	118	26.5	12.03	2.452	1.72	.350	.090	22.4
May 24-30.....	0.0314	766	155.0	79.8	109	22.2	10.83	2.152	1.55	.307	.014	20.2

SUBJECT No. 2 (M. R. B.).

Mar. 1-14.....		2,436	420.2	82.8	174	30.0	26.97	5.938	1.93	0.424	0.037	17.2
Mar. 15-Apr. 4.....	0.0169	3,028	614.9	79.7	144	29.3	34.47	7.704	1.64	.367	.310	20.3
Apr. 5-18.....	.0164	1,952	376.0	80.7	139	26.9	22.39	4.945	1.60	.353	.220	19.3
Apr. 19-May 2.....	.0125	2,524	472.5	81.3	180	33.7	29.76	6.701	2.13	.479	.187	18.7
May 3-16.....	.0196	2,279	425.0	81.4	163	30.4	26.16	5.149	1.87	.368	.294	18.6
May 17-23.....		1,120	172.7	84.6	160	24.7	11.23	2.070	1.60	.296	.018	15.4
May 24-30.....		1,074	182.0	83.1	153	26.0	11.43	2.165	1.63	.309	.015	16.9

SUBJECT No. 3 (O. H. C.).

Mar. 1-14.....		1,025	261.2	74.5	73	18.7	17.83	4.007	1.27	0.286	0.028	25.5
Mar. 15-27.....		1,193	309.2	74.1	92	23.8	17.64	3.910	1.36	.301	.035	25.9
Mar. 28-Apr. 11.....	0.0167	1,610	433.2	73.1	107	28.9	26.81	5.261	1.79	.351	.165	26.9
Apr. 12-25.....	.0142	1,862	470.0	74.8	133	33.6	33.29	5.731	2.38	.409	.220	25.2
Apr. 26-May 2.....	.0126	1,049	291.0	72.3	150	41.6	19.17	3.534	2.74	.505	.100	27.7
May 3-16.....	.0196	1,837	404.0	78.0	131	28.9	27.42	4.784	1.96	.342	.215	22.0
May 17-23.....		774	181.5	76.5	111	26.0	12.81	2.235	1.83	.320	.016	23.5
May 24-30.....		1,056	224.0	78.8	151	32.0	15.24	2.633	2.18	.376	.018	21.2

SUBJECT No. 4 (E. S. F.).

Mar. 1-14.....		958	314.5	67.2	68	22.5	21.53	4.440	1.54	0.317	0.016	32.8
Mar. 15-Apr. 4.....		1,554	515.2	66.9	74	24.5	31.94	5.929	1.52	.282	.047	33.1
Apr. 5-18.....		1,263	352.5	72.1	90	25.2	24.56	4.645	1.75	.332	.027	27.9
Apr. 19-May 2.....		1,734	460.5	73.5	124	32.9	30.96	5.440	2.21	.389	.057	26.5
May 3-16.....		1,188	307.5	74.1	85	22.0	21.25	3.702	1.52	.264	.041	25.9
May 17-23.....		542	147.0	72.9	77	21.0	9.55	2.069	1.36	.296	.125	27.1
May 24-30.....	0.0314	418	126.0	69.9	60	18.0	8.11	1.779	1.16	.254	.014	30.1

SUBJECT No. 5 (C. P. K.).

Mar. 1-14.....		1,304	356.0	72.7	93	25.4	24.69	5.376	1.76	0.384	0.036	27.3
Mar. 15-Apr. 4.....	0.0169	1,985	627.1	68.5	95	29.9	39.57	8.845	1.88	.421	.314	31.5
Apr. 5-20.....	0.0217	1,382	382.0	72.4	86	23.9	26.92	5.684	1.68	.355	.330	27.6
Apr. 21-25.....												
Apr. 26-May 2.....	.0251	619	202.5	67.3	88	29.0	13.44	3.388	1.92	.484	.190	32.7
May 3-16.....	.0321	1,582	409.0	74.2	113	29.2	27.67	5.576	1.98	.398	.424	25.8
May 17-23.....		811	217.7	73.1	116	31.1	15.12	3.119	2.16	.446	.055	26.9
May 24-30.....		841	203.0	75.9	120	29.0	13.70	2.650	1.96	.379	.019	24.1

¹ MgSO₄ given to get last stool.² 0.0314 gram Cu as CuSO₄ in milk taken for 5 days.³ No peas eaten on Apr. 20.

NOTE.—Nitrogen+phosphorus values include amounts in filter paper.

CHART III.—*Feces*—Continued.

SUBJECT No. 6 (W. C. T.).

Date (1911).	Average Cu ingested.	Total wet weight.	Total dry weight.	Per cent H ₂ O.	Average wet weight.	Average dry weight.	Total nitrogen.	Total phosphorus.	Average nitrogen.	Average phosphorus.	Total Cu eliminated.	Relation of dry to wet feces.
	Gm.	Gms.	Gms.	P.ct.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	P. ct.
Mar. 1-13.....		1,387	320.0	77.0	107	24.6	21.94	3.857	1.69	0.297	0.029	23.0
Mar. 14-21.....												
Mar. 22-Apr. 4..	0.0167	1,363	387.5	71.5	98	27.7	24.33	3.938	1.74	.281	.175	28.5
Apr. 5-18.....	.0164	1,936	380.2	80.4	138	27.2	26.46	4.453	1.89	.318	.248	19.6
Apr. 19-May 2..	.0125	1,557	477.0	69.4	111	34.1	32.52	5.404	2.32	.386	.258	30.6
May 3-16.....	.0196	1,731	414.4	76.1	124	29.6	27.45	4.169	1.96	.298	.292	23.9
May 17-23.....		657	171.0	74.0	94	24.4	12.24	1.921	1.75	.274	.022	26.0
May 24-30.....		772	181.0	76.6	110	25.9	12.94	1.843	1.85	.263	.015	23.4

SUBJECT No. 7 (J. F. W.).

Mar. 1-14.....		1,231	345.5	71.9	88	24.7	22.94	5.694	1.64	0.407	0.026	28.1
Mar. 15-Apr. 4..	0.0169	1,572	538.5	65.8	75	25.6	32.43	7.980	1.54	.380	.289	34.2
Apr. 5-19.....	.0217	1,498	408.5	72.8	100	27.2	27.10	6.179	1.81	.412	.294	27.2
Apr. 20-May 2..	.0245	1,433	394.0	72.5	110	30.3	27.67	6.076	2.13	.467	.359	27.5
May 3-16.....	.0344	1,948	436.5	77.6	139	31.2	29.06	5.530	2.08	.395	.454	22.4
May 17-23.....		878	209.5	76.2	125	30.0	14.05	2.856	2.01	.408	.043	23.8
May 24-30.....		864	206.5	76.1	123	29.5	14.13	2.665	2.02	.381	.019	23.9

SUBJECT No. 8 (M. W.).

Mar. 1-14.....		1,657	406.5	75.6	118	29.0	25.96	5.547	1.85	0.396	0.031	24.4
Mar. 15-Apr. 4..	0.0169	2,075	640.5	69.2	99	30.5	36.27	8.392	1.73	.400	.274	30.8
Apr. 5-19.....	.0217	1,440	406.5	71.8	96	27.1	26.54	6.126	1.77	.408	.351	28.2
Apr. 20-May 2..	.0245	1,306	330.0	74.7	100	25.4	21.88	4.550	1.68	.350	.292	25.3
May 3-16.....	.0321	2,348	565.0	76.0	168	40.4	35.83	6.440	2.56	.460	.513	24.0
May 17-23.....		836	193.5	76.6	118	27.7	13.63	2.447	1.95	.350	.019	23.4
May 24-30.....		1,040	238.5	77.1	149	34.1	15.83	2.606	2.26	.372	.018	22.9

¹ MgSO₄ given to get last stool.

NOTE.—Nitrogen+phosphorus values include amounts in filter paper.

CHART IV.—*Fat in feces.*

[Folin method.]

SUBJECT No. 1 (E. H. B.).

Date (1911).	Average cop- per ingested.	Dry weight of feces.	Per cent of total fat.	Per cent of fatty acid.	Per cent of neutral fat.	Total fat in feces.	Total fatty acid in feces.	Total neutral fat.	Average dry weight of feces (daily).	Average daily fat.	Average daily fatty acid.	Average daily neutral fat.	Approximate input of fat.
	Gm.	Gms.	P. ct.	P. ct.	P. ct.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
Mar. 1-14.....	402.5	13.4	5.7	7.7	53.9	22.9	31.0	28.7	3.8	1.6	2.2	100
Mar. 15-23.....	0.0170	212.3	10.9	4.0	6.9	23.1	8.5	14.6	23.6	2.6	1.0	1.6	
Mar. 24-27.....	.....	159.3	12.3	4.8	7.5	19.6	7.7	11.9	19.9	2.5	1.0	1.5
Mar. 28-Apr. 4.....	.....	353.7	11.8	4.3	7.5	41.7	15.2	26.5	23.6	2.8	1.0	1.8
Apr. 5-19.....	.....	298.5	11.7	4.3	7.4	34.9	12.8	22.1	23.0	2.7	1.0	1.7
Apr. 20-May 2.....	.....	336.9	9.7	3.5	6.2	32.7	11.8	20.9	24.0	2.3	.8	1.5
May 3-16.....	.....	185.0	15.6	9.1	6.5	28.9	16.9	12.0	26.5	4.1	2.4	1.7
May 17-23.....	1.0314	155.0	14.4	7.7	6.7	22.3	11.9	10.4	22.2	3.2	1.7	1.5	
May 24-30.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

SUBJECT No. 2 (M. R. B.).

Mar. 1-14.....	420.2	12.9	5.6	7.3	54.2	23.5	30.7	30.0	3.9	1.7	2.2	125
Mar. 15-Apr. 4.....	0.0169	614.9	9.0	3.3	5.7	55.4	20.3	35.1	29.3	2.7	1.0	1.7	
Apr. 5-18.....	.0164	376.0	11.3	4.2	7.1	42.5	15.8	26.7	26.9	3.0	1.1	1.9	
Apr. 19-May 2.....	.0125	472.5	12.1	4.1	8.0	57.2	19.4	37.8	33.7	4.1	1.4	2.7	
May 3-16.....	.0196	425.0	11.1	3.8	7.3	47.2	16.2	31.0	30.4	3.4	1.2	2.2	
May 17-23.....	.....	172.7	9.1	3.2	5.9	15.7	5.5	10.2	24.7	2.3	.8	1.5
May 24-30.....	.....	182.0	11.8	4.6	7.2	21.5	8.4	13.1	26.0	3.1	1.2	1.9

SUBJECT No. 3 (O. H. C.).

Mar. 1-14.....	261.2	14.2	6.5	7.7	37.1	17.0	20.1	18.7	2.6	1.2	1.4	65
Mar. 15-27.....	.....	309.2	8.6	3.8	4.8	26.6	11.8	14.8	23.8	2.0	.9	1.1
Mar. 28-Apr. 11.....	0.0167	433.2	5.6	2.9	2.7	24.3	12.6	11.7	28.9	1.6	.8	.8	
Apr. 12-25.....	.0142	470.0	7.5	4.4	3.1	35.3	20.7	14.6	33.6	2.5	1.5	1.0	
Apr. 26-May 2.....	.0126	291.0	6.2	2.9	3.3	18.0	8.4	9.6	41.6	2.6	1.2	1.4	
May 3-16.....	.0196	404.0	5.8	2.9	2.9	23.4	11.7	11.7	28.9	1.7	.9	.8	
May 17-23.....	.....	181.5	10.2	5.1	5.1	18.5	9.3	9.2	26.0	2.6	1.3	1.3
May 24-30.....	.....	224.0	7.2	4.5	2.7	16.1	10.1	6.0	32.0	2.3	1.4	.9

SUBJECT No. 4 (E. S. F.).

Mar. 1-14.....	314.5	11.8	4.3	7.5	37.1	13.5	23.6	22.5	2.7	1.0	1.7	125
Mar. 15-Apr. 4.....	.....	515.2	8.5	2.8	5.7	43.8	14.4	29.4	24.5	2.1	.7	1.4
Apr. 5-18.....	.....	352.5	11.9	4.0	7.9	41.9	14.1	27.8	25.2	3.0	1.0	2.0
Apr. 19-May 2.....	.....	460.5	9.4	3.6	5.8	43.3	16.6	26.7	32.9	3.1	1.2	1.9
May 3-16.....	.....	307.5	10.2	3.0	7.2	31.4	9.2	22.2	22.0	2.3	.7	1.6
May 17-23.....	0.0314	147.0	12.4	5.4	7.0	18.2	7.9	10.3	21.0	2.6	1.1	1.5	
May 24-30.....	.....	126.0	15.5	6.5	9.0	19.5	8.2	11.3	18.0	2.8	1.2	1.6

SUBJECT No. 5 (C. P. K.).

Mar. 1-14.....	356.0	10.2	3.9	6.3	36.3	13.9	22.4	25.4	2.6	1.0	1.6	100
Mar. 15-Apr. 4.....	0.0169	627.1	8.1	3.7	4.4	50.8	23.2	27.6	29.9	2.4	1.1	1.3	
Apr. 5-20.....	2.0217	382.0	9.2	4.3	4.9	35.1	16.4	18.7	23.9	2.2	1.0	1.2	
Apr. 21-25.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Apr. 26-May 2.....	.0251	202.5	7.7	3.3	4.4	15.6	6.7	8.9	29.0	2.3	1.0	1.3	
May 3-16.....	.0321	409.0	7.8	3.8	4.0	31.9	15.5	16.4	29.2	2.3	1.1	1.2	
May 17-23.....	.....	217.7	8.2	3.8	4.4	17.9	8.3	9.6	31.1	2.6	1.2	1.4
May 24-30.....	.....	203.0	9.8	4.5	5.3	19.9	9.1	10.8	29.0	2.8	1.3	1.5

¹ 0.0314 gram Cu as CuSO₄ in milk taken for 5 days.² No peas eaten Apr. 20.

CHART IV.—*Fat in feces*—Continued.

SUBJECT No. 6 (W. C. T.).

Date (1911).	Average cop- per ingested.	Dry weight of feces.	Per cent of total fat.	Per cent of fatty acid.	Per cent of neutral fat.	Total fat in feces.	Total fatty acid in feces.	Total neutral fat.	Average dry weight of feces (daily).	Average daily fat.	Average daily fatty acid.	Average daily neutral fat.	Approximate input of fat.
	Gm.	Gms.	P. ct.	P. ct.	P. ct.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
Mar. 1-13.....		320.0	10.8	4.2	6.6	34.5	13.4	21.1	24.6	2.6	1.0	1.6	66
Mar. 14-21.....													
Mar. 22-Apr. 4.	0.0167	387.5	6.0	2.4	3.6	23.2	9.3	13.9	27.7	1.7	.7	1.0	
Apr. 5-18.....	.0164	380.2	8.6	3.3	5.3	32.7	12.5	20.2	27.2	2.3	.9	1.4	
Apr. 19-May 2.	.0125	477.0	8.3	3.5	4.8	39.6	16.7	22.9	34.1	2.8	1.2	1.6	
May 3-16.....	.0196	414.4	7.7	2.9	4.8	31.9	12.0	19.9	29.6	2.3	.9	1.4	
May 17-23.....		171.0	9.1	3.5	5.6	15.6	6.0	9.6	24.4	2.3	.8	1.4	
May 24-30.....		181.0	10.4	4.2	6.2	18.8	7.6	11.2	25.9	2.7	1.1	1.6	

SUBJECT No. 7 (J. F. W.).

Mar. 1-14.....		345.5	13.1	5.4	7.7	45.3	18.7	26.6	24.7	3.2	1.3	1.9	75
Mar. 15-Apr. 4.	0.0169	538.5	9.7	4.5	5.2	52.2	24.2	28.0	25.6	2.5	1.2	1.3	
Apr. 5-19.....	.0217	408.5	10.2	4.2	6.0	41.7	17.2	24.5	27.2	2.8	1.2	1.6	
Apr. 20-May 2.	.0245	394.0	10.7	4.3	6.4	42.2	16.9	25.2	30.3	3.2	1.3	1.9	
May 3-16.....	.0344	436.5	9.4	4.1	5.3	41.0	17.9	23.1	31.2	2.9	1.3	1.6	
May 17-23.....		209.5	10.1	3.9	6.2	21.2	8.2	13.0	30.0	3.1	1.2	1.9	
May 24-30.....		206.5	11.3	4.2	7.1	23.3	8.7	14.6	29.5	3.3	1.2	2.1	

SUBJECT No. 8 (M. W.).

Mar. 1-14.....		406.5	14.6	5.8	8.8	59.4	23.6	35.8	29.0	4.2	1.7	2.5	100
Mar. 15-Apr. 4.	0.0169	640.5	12.8	5.6	7.2	82.0	35.9	46.1	30.5	3.9	1.7	2.2	
Apr. 5-19.....	.0217	406.5	15.7	6.3	9.4	63.8	25.6	38.2	27.1	4.3	1.7	2.6	
Apr. 20-May 2.	.0245	330.0	14.5	5.6	8.9	47.9	18.5	29.4	25.4	3.7	1.4	2.3	
May 3-16.....	.0321	565.0	11.8	5.2	6.6	66.7	29.4	27.3	40.4	4.8	2.1	2.7	
May 17-23.....		193.5	14.1	5.8	8.3	27.3	11.2	16.1	27.7	3.9	1.6	2.3	
May 24-30.....		238.5	12.1	5.1	7.0	28.9	12.2	16.7	34.1	4.1	1.7	2.4	

CHART V.—Utilization of nitrogen.

Date (1911).	Copper in peas, etc., ingested.	Nitrogen of food, daily average.	Nitrogen of feces, daily average.	Difference.	Per cent of nitro- gen utilized.
SUBJECT No. 1 (E. H. B.).					
	Gm.	Gms.	Gms.	Gms.	Per cent.
Mar. 1-14.....		14.4	2.1	12.3	85.4
Mar. 15-23 ¹	0.0170	13.7	1.5	12.2	89.1
Mar. 28-Apr. 4.....		12.4	1.3	11.1	89.5
Apr. 5-19.....		12.4	1.6	10.8	87.1
Apr. 20-May 2.....		11.9	1.5	10.4	87.4
May 3-16.....		12.0	1.6	10.4	86.7
May 17-23.....	² 0.0314	12.3	1.7	10.6	86.2
May 24-30.....		12.5	1.5	11.0	88.0
SUBJECT No. 2 (M. R. B.).					
Mar. 1-14.....		14.2	1.9	12.3	86.6
Mar. 15-Apr. 4.....	0.0169	14.8	1.6	13.2	89.2
Apr. 5-18.....	.0164	14.5	1.6	12.9	89.0
Apr. 19-May 2.....	.0125	14.4	2.1	12.3	85.4
May 3-16.....	.0196	14.3	1.9	12.4	86.7
May 17-23.....		13.7	1.6	12.1	88.3
May 24-30.....		13.9	1.6	12.3	88.5
SUBJECT No. 3 (O. H. C.).					
Mar. 1-14.....		12.7	1.3	11.4	89.8
Mar. 15-27.....		12.8	1.4	11.4	89.1
Mar. 28-Apr. 11.....	0.0167	13.5	1.8	11.7	86.7
Apr. 12-25.....	.0142	13.2	2.4	10.8	81.8
Apr. 26-May 2.....	.0126	13.4	2.7	10.7	79.9
May 3-16.....	.0196	13.6	2.0	11.6	85.3
May 17-23.....		13.1	1.8	11.3	86.3
May 24-30.....		13.4	2.2	11.2	83.6
SUBJECT No. 4 (E. S. F.).					
Mar. 1-14.....		13.7	1.5	12.2	89.1
Mar. 15-Apr. 4.....		14.3	1.5	12.8	89.5
Apr. 5-18.....		14.1	1.8	12.3	87.2
Apr. 19-May 2.....		14.0	2.2	11.8	84.3
May 3-16.....		13.4	1.5	11.9	88.8
May 17-23.....	² 0.0314	13.5	1.4	12.1	89.6
May 24-30.....		13.9	1.2	12.7	91.4
SUBJECT No. 5 (C. P. K.).					
Mar. 1-14.....		13.8	1.8	12.0	87.0
Mar. 15-Apr. 4.....	0.0169	14.5	1.9	12.6	86.9
Apr. 5-20 ³	⁴ 0.0217	13.7	1.7	12.0	87.6
Apr. 26-May 2.....	.0251	14.4	1.9	12.5	86.8
May 3-16.....	.0321	14.1	2.0	12.1	85.8
May 17-23.....		13.3	2.2	11.1	83.5
May 24-30.....		13.6	2.0	11.6	85.3
SUBJECT No. 6 (W. C. T.).					
Mar. 1-13 ⁵		14.4	1.7	12.7	88.2
Mar. 22-Apr. 4.....	0.0167	15.1	1.7	13.4	88.7
Apr. 5-18.....	.0164	14.8	1.9	12.9	87.2
Apr. 19-May 2.....	.0125	14.7	2.3	12.4	84.4
May 3-16.....	.0196	14.9	2.0	12.9	86.6
May 17-23.....		14.4	1.7	12.7	88.2
May 24-30.....		14.8	1.8	13.0	87.8
SUBJECT No. 7 (F. W.).					
Mar. 1-14.....		13.3	1.6	11.7	88.0
Mar. 15-Apr. 4.....	0.0169	14.0	1.5	12.5	89.3
Apr. 5-19.....	.0217	14.1	1.8	12.3	87.2
Apr. 20-May 2.....	.0245	14.3	2.1	12.2	85.3
May 3-16.....	.0344	14.6	2.1	12.5	85.6
May 17-23.....		13.9	2.0	11.9	85.6
May 24-30.....		14.2	2.0	12.2	85.9
SUBJECT No. 8 (M. W.).					
Mar. 1-14.....		15.0	1.9	13.1	87.3
Mar. 15-Apr. 4.....	0.0169	15.6	1.7	13.9	89.1
Apr. 5-19.....	.0217	15.6	1.8	13.8	88.5
Apr. 20-May 2.....	.0245	15.6	1.7	13.9	89.1
May 3-16.....	.0321	16.4	2.6	13.8	84.1
May 17-23.....		15.5	1.9	13.6	87.7
May 24-30.....		15.8	2.3	13.5	85.4

¹ Sick Mar. 24-27.² Cu as CuSO₄ in milk, 5 days.³ Sick Apr. 21-25.⁴ No peas eaten on Apr. 20⁵ Sick Mar. 14-21.

CHART VI.—*Clinical data.*

[Reported by subject.]

SUBJECT No. 1 (E. H. B.).

Date (1911).	Copper in peas, etc., in- gested, daily aver- age.	Body tempera- ture.		Pulse.	Appetite.	Nausea.	Headache.	Malaise.	Colic.	Sleep.	Exercise or work.	Stool.	Remarks.
		a. m.	p. m.	a. m.	p. m.								
Mar. 1	Gram.	°C.	°C.										
		36.4	36.4	88	Good.	None.	None.	None.	None.	Good.	Regular each day during experi- ment, except as noted.		
2		36.2	36.4	86	do.	do.	do.	do.	do.	do.		1 stool.	
3		36.4	36.6	92	do.	do.	do.	do.	do.	do.		do.	
4		36.2	36.0	84	do.	do.	do.	do.	do.	do.		2 stools.	
5		36.2	36.0	82	do.	do.	do.	do.	do.	do.		1 stool.	
6		36.2	36.4	80	do.	do.	Slight	do.	do.	do.		2 stools.	
7		36.2	36.4	86	do.	do.	None.	do.	do.	do.		1 stool.	
8		36.5	36.5	90	do.	do.	do.	do.	do.	do.		do.	
9		36.5	35.5	90	do.	do.	do.	do.	do.	do.		do.	
10		35.5	36.2	80	do.	do.	do.	do.	do.	do.		2 soft.	
11		35.5	36.2	90	Diminished.	do.	All afternoon.	do.	do.	do.		1 stool.	
12		35.6	36.6	92	Good.	do.	None.	do.	do.	do.		do.	
13		36.2	36.4	92	do.	do.	do.	do.	do.	do.		do.	
14		36.2	36.5	88	do.	do.	Slight.	do.	do.	do.		do.	
15	0.0170	35.6	36.2	86	do.	All afternoon.	do.	do.	do.	Broken.	None.	do.	Vomited; dizzi- ness.
16	.0170	36.7	36.2	90	do.	2 hours.	do.	do.	do.	Good.		1 stool.	
17	.0170	36.4	36.2	84	do.	None.	do.	do.	do.	do.		do.	
18	.0170	36.4	36.8	88	do.	do.	do.	do.	do.	do.		2 stools.	
19	.0170	36.4	36.7	86	do.	do.	3 hours.	do.	do.	Broken.		1 stool.	
20	.0170	36.6	36.2	104	do.	do.	Yes.	do.	do.	Fair.		do.	
21	.0170	36.4	36.7	90	Not good at supper.	Afternoon and evening.	All afternoon and evening.	do.	do.	Good.	None.	do.	
22	.0170	36.6	37.0	94	Not good.	do.	Sick headache.	Yes.	Dull pain in abdo- men.	Broken.		do.	Vomited 7.30 p. m.; in bed most of day; vomited; dizziness; sick to Mar. 28. ¹
23	.0170	36.6	36.0	96	do.	Yes.	do.	do.	do.	Good.		3 stools.	

¹ Mar. 22. Dull pain in abdomen and at night dyspnea, salivation, headache, nausea.

CHART VI.—*Clinical data*—Continued.

SUBJECT No. 1—Continued.

Date. (1911).	Copper in peas, etc., in- gested, daily aver- age.	Body tempera- ture.		Pulse.		Appetite.	Nausea.	Headache.	Malaise.	Colic.	Sleep.	Exercise or work.	Stool.	Remarks.
		a. m.	p. m.	a. m.	p. m.									
Mar. 28	Gram.	° C.	° F.			Good.	None.	None.	None.	None.	Good.		1 stool.	
29		36.3	36.6	82	88	do.	do.	do.	do.	do.	do.		do.	
30		36.3	36.2	92	80	do.	do.	do.	do.	do.	do.		do.	
31		36.0	36.5	90	86	do.	do.	do.	do.	do.	do.		do.	
Apr. 1		36.0	36.2	88	84	do.	do.	do.	do.	do.	do.		do.	
2		36.0	36.4	88	90	do.	do.	do.	do.	do.	do.		do.	
3		36.2	36.4	88	84	do.	do.	do.	do.	do.	do.		do.	
4		35.6	36.2	90	86	do.	do.	do.	do.	do.	do.		do.	
5		35.8	36.2	98	92	do.	do.	do.	do.	do.	do.		do.	
6		36.0	36.4	92	90	do.	do.	do.	do.	do.	do.		do.	
7		35.8	36.4	86	82	do.	do.	do.	do.	do.	do.		do.	
8		36.0	36.4	92	88	do.	do.	do.	do.	do.	do.		do.	
9		36.0	36.2	84	88	do.	do.	do.	do.	do.	do.		do.	
10		36.0	36.4	86	92	do.	do.	do.	do.	do.	do.		do.	
11		35.6	35.8	84	88	do.	do.	do.	do.	do.	do.		do.	
12		35.6	36.0	84	82	do.	do.	do.	do.	do.	do.		do.	
13		35.6	36.0	82	84	do.	do.	Slight.	do.	do.	do.		2 stools	
14		35.6	36.0	90	86	do.	do.	None.	do.	do.	do.		1 stool.	
15		36.0	36.2	88	84	do.	do.	Slight.	do.	do.	do.		do.	
16		35.8	36.2	82	86	do.	do.	None.	do.	do.	do.		do.	
17		35.6	36.0	82	86	do.	do.	do.	do.	do.	do.		do.	
18		35.6	36.0	82	86	do.	do.	do.	do.	do.	do.		do.	
19		36.2	36.6	86	88	do.	do.	do.	do.	do.	do.		do.	
20		36.0	36.2	80	84	do.	do.	do.	do.	do.	do.		do.	
21		35.6	36.0	80	82	do.	do.	do.	do.	do.	do.		do.	
22		35.6	36.0	80	84	do.	do.	do.	do.	do.	do.		do.	
23		35.6	36.0	80	84	do.	do.	do.	do.	do.	do.		do.	
24		35.6	36.0	80	84	do.	do.	do.	do.	do.	do.		do.	
25		35.6	36.0	80	82	do.	do.	do.	do.	do.	do.		do.	
26		36.0	36.4	82	88	do.	do.	do.	do.	do.	do.		do.	
27		35.6	36.6	80	88	do.	do.	Slight.	do.	do.	do.		do.	
28		35.6	36.2	86	92	do.	do.	None.	do.	do.	do.		do.	
29		36.0	36.8	88	92	do.	do.	In evening.	do.	do.	do.		do.	
30		35.6	36.0	82	88	do.	do.	None.	do.	do.	do.		do.	Constipated.

May	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	36.0	36.2	36.0	36.6	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.2	36.8	37.0	37.0	37.0	36.6	36.2	35.6	36.0	36.2	36.0	36.4	36.0	
	86	82	86	88	88	86	88	92	90	88	88	88	86	90	86	84	88	88	84	88	82	84	80	84	82	78	102	88	94	90	92
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
	do	do	do	do																											

SUBJECT No. 2 (M. R. B.).

Mar.	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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CHART VI.—*Clinical data—Continued.*

SUBJECT No. 2—Continued.

Date (1911).	Copper in peas, etc., in- daily average.	Body tempera- ture.		Pulse.	Appetite.	Nausea.	Headache.	Malaise.	Colic.	Sleep.	Exercise or work.	Stool.	Remarks.
		a. m.	p. m.	a. m.	p. m.								
Mar. 9	Gram.	° C.	° C.	50	70	Good	None	None	None			1 normal	Eyes examined, atropine.
10		36.0	36.2	50	70	do	do	do	do			2 normal	
11		36.0	36.0	60	67	do	do	do	do			1 normal	
12		36.2	36.0	55	65	do	do	do	do			do	
13		35.9	35.9	62	61	Slight	do	do	do			do	
14		36.4	36.1	60	67	Slight, all day	do	do	do			do	
15						None	do	do	do			do	
16	0.0169	36.4	36.2	64	66	do	do	do	do			do	
17	0.0169	36.1	36.4	48	63	Slight	do	do	do			do	
18	0.0169	36.1	36.1	57	58	In afternoon	do	Slight	do			do	
19	0.0169	36.3	37.0	47	79	Not good	do	None	do			do	
20	0.0169	36.1	36.1	57	62	do	do	do	do			do	
21	0.0169	36.4	36.3	59	61	Yes	Yes	Yes	do			do	Vertigo, drowsi- ness.
22	0.0169	36.4	36.4	83	80	do	do	do	do			do	
23	0.0169	36.1	36.3	60	64	Yes, afternoon	Yes, afternoon	Yes, afternoon	do			do	
24	0.0169	36.2	36.6	59	70	do	do	do	do			do	Not well in after- noon.
25	0.0169	36.4	36.2	56	64	Poor	do	do	do			do	
26	0.0169	36.1	36.7	50	75	Some	Some	Some	Some			do	
27	0.0169	36.0	36.1	51	65	In afternoon	In afternoon	In afternoon	None			do	
28	0.0169	36.1	36.6	59	74	After dinner	None	do	do			1 loose	
29	0.0169	36.4	36.4	56	69	do	do	do	do			1 normal	
30	0.0169	36.4	36.4	55	62	Some	do	do	do			do	
31	0.0169	36.0	36.1	54	61	Good	do	do	do			Gymnasium	
Apr. 1	0.0169	36.1	36.4	58	61	do	do	Slight	do			do	
2	0.0169	36.1	37.5	58	73	do	do	do	do			1 normal	
3	0.0169	37.4	37.1	92	78	In afternoon	In afternoon	In afternoon	do			do	Sore throat.
4	0.0169	37.1	37.0	89	88	Some	Some	Some	do			do	Sore throat; worse.

7	36.4	36.4	do	do	do	do	do	do	Gymnasium	do
8	36.4	36.4	do	do	do	do	do	do	do	do
9	36.4	36.4	do	do	do	do	do	do	do	do
10	36.3	36.3	do	do	do	do	do	do	do	do
11	36.3	36.3	do	do	do	do	do	do	do	do
12	36.3	36.3	do	do	do	do	do	do	do	do
13	36.4	36.4	do	do	do	do	do	do	do	do
14	36.4	36.4	do	do	do	do	do	do	do	do
15	36.4	36.4	do	do	do	do	do	do	do	do
16	36.4	36.4	do	do	do	do	do	do	do	do
17	36.4	36.4	do	do	do	do	do	do	do	do
18	36.4	36.4	do	do	do	do	do	do	do	do
19	36.4	36.4	do	do	do	do	do	do	do	do
20	36.4	36.4	do	do	do	do	do	do	do	do
21	36.4	36.4	do	do	do	do	do	do	do	do
22	36.4	36.4	do	do	do	do	do	do	do	do
23	36.4	36.4	do	do	do	do	do	do	do	do
24	36.4	36.4	do	do	do	do	do	do	do	do
25	36.4	36.4	do	do	do	do	do	do	do	do
26	36.4	36.4	do	do	do	do	do	do	do	do
27	36.4	36.4	do	do	do	do	do	do	do	do
28	36.4	36.4	do	do	do	do	do	do	do	do
29	36.4	36.4	do	do	do	do	do	do	do	do
30	36.4	36.4	do	do	do	do	do	do	do	do
31	36.4	36.4	do	do	do	do	do	do	do	do
1	36.4	36.4	do	do	do	do	do	do	do	do
2	36.3	36.4	do	do	do	do	do	do	do	do
3	36.4	36.4	do	do	do	do	do	do	do	do
4	36.5	36.4	do	do	do	do	do	do	do	do
5	36.4	36.4	do	do	do	do	do	do	do	do
6	36.4	36.4	do	do	do	do	do	do	do	do
7	36.4	36.4	do	do	do	do	do	do	do	do
8	36.4	36.4	do	do	do	do	do	do	do	do
9	36.4	36.4	do	do	do	do	do	do	do	do
10	36.4	36.4	do	do	do	do	do	do	do	do
11	36.4	36.4	do	do	do	do	do	do	do	do
12	36.6	36.8	do	do	do	do	do	do	do	do
13	36.4	36.4	do	do	do	do	do	do	do	do
14	36.4	36.4	do	do	do	do	do	do	do	do
15	36.4	36.4	do	do	do	do	do	do	do	do
16	36.4	36.4	do	do	do	do	do	do	do	do
17	36.4	36.4	do	do	do	do	do	do	do	do
18	36.4	36.4	do	do	do	do	do	do	do	do
19	36.4	36.4	do	do	do	do	do	do	do	do
20	36.4	36.4	do	do	do	do	do	do	do	do
21	36.4	36.4	do	do	do	do	do	do	do	do
22	36.4	36.4	do	do	do	do	do	do	do	do
23	36.4	36.4	do	do	do	do	do	do	do	do
24	36.4	36.4	do	do	do	do	do	do	do	do
25	36.4	36.4	do	do	do	do	do	do	do	do

Apr.

Beginning coryza.
"Cold in head,"
cough.Sour taste, "full-
ness,"

Chills, fever.

CHART VI.—*Clinical data—Continued.*

SUBJECT No. 4—Continued.

Date (1911).	Copper in peas, etc., in- gested, daily aver- age.	Body tempera- ture.		Pulse.		Appetite.	Nausea.	Headache.	Malaise.	Colic.	Sleep.	Exercise or work.	Stool.	Remarks.
		a. m.	p. m.	a. m.	p. m.									
		° C.												
Apr. 26	Gram.	36.4	36.4	70	76	Fair	None	None	None	None	Sound		1 firm	
27		36.4	36.4	70	86	Not good	do	do	do	do	do	Swim	do	
28		36.4	36.4	70	80	do	do	do	do	do	do	do	do	
29		36.4	36.4	70	80	do	do	do	do	do	do	do	do	
30		36.4	36.4	70	80	Fair	do	do	do	do	do	do	do	
May 1		36.4	36.4	70	80	do	do	do	do	do	do	do	do	
2		36.4	36.6	70	80	do	do	do	do	do	do	do	do	
3		36.4	36.6	70	76	do	do	do	do	do	do	do	do	
4		36.4	36.7	70	80	do	do	do	do	do	do	do	do	
5		36.4	36.4	70	86	do	do	do	do	do	do	do	do	
6		36.4	36.6	72	86	do	do	do	do	do	do	Tennis	do	
7		36.4	36.6	70	90	do	do	do	do	do	do	do	do	
8		36.4	36.4	70	86	do	do	do	do	do	do	do	do	
9		36.4	36.8	68	86	do	do	do	do	do	do	do	do	
10		36.4	36.6	68	78	do	do	do	do	do	do	do	do	
11		36.4	36.6	68	76	do	do	do	do	do	do	do	do	
12		36.4	36.5	68	76	do	do	do	do	do	do	do	do	
13		36.3	36.5	68	82	do	do	do	do	do	do	do	do	
14		36.3	36.4	72	86	do	do	do	do	do	do	do	do	
15		36.4	36.4	68	88	do	do	do	do	do	do	do	do	
16		36.4	36.6	70	88	do	do	do	do	do	do	do	do	
17	1.0314	36.4	36.6	68	86	do	Slight	do	do	do	do	Tennis	do	
18	1.0314	36.3	36.4	68	84	do	None	do	Yes	do	do	do	do	
19	1.0314	36.4	36.4	68	90	Poor	do	do	None	do	do	do	do	
20	1.0314	36.3	36.5	72	86	do	After noon meal	do	do	do	do	do	do	
21	1.0314	36.4	36.5	72	78	do	do	do	do	do	do	do	1 firm	
22	1.0314	36.4	36.4	70	86	Fair	None	do	do	do	do	do	do	
23	1.0314	36.4	36.4	70	86	do	do	do	do	do	do	do	do	
24		36.4	36.4	70	88	do	do	do	do	Yes	do	Swim	do	
25		36.4	36.4	72	88	do	do	do	do	None	do	Tennis	do	
26		36.4	36.6	68	88	do	do	do	do	do	do	do	do	
27		36.4	36.4	52	70	do	do	do	do	Yes	do	do	do	
28		36.4	36.3	60	86	do	do	do	do	None	do	do	do	

Metallic taste in
mouth.

SUBJECT' No. 5 (C. P. K.).

[illegible]

4 Cu as CuSO_4 in milk.

CHART VI.—*Clinical data*—Continued.

SUBJECT No. 6—Continued.

Date (1911).	Copper in peas, etc., in- gested, daily aver- age.	Body tempera- ture.		Pulse.		Appetite.	Nausea.	Headache.	Malaise.	Colic.	Sleep.	Exercise or work.	Stool.	Remarks.
		a. m.	p. m.	a. m.	p. m.									
		° C.	° C.			Good.	None.	None.	None.	None.	Sound.	Brisk walk.	1 hard.	Drowsiness.
Mar. 28	Gram.	0.167	36.1	35.9	80	do.	do.	do.	do.	do.	do.	Gymnasium.	do.	
29	0.167	36.3	36.4	80	96	do.	do.	do.	do.	do.	do.	Brisk walk.	do.	
30	0.167	36.2	36.5	100	96	do.	do.	do.	do.	do.	do.	do.	1 hard.	
31	0.167	36.1	36.6	80	84	do.	do.	do.	do.	do.	do.	do.	do.	
Apr. 1	0.167	36.3	36.2	84	84	do.	do.	do.	do.	do.	do.	do.	do.	
2	0.167	36.3	36.4	84	84	do.	do.	do.	do.	do.	do.	do.	do.	
3	0.167	36.1	36.2	64	96	do.	do.	do.	do.	do.	do.	Gymnasium.	do.	
4	0.167	35.9	36.5	84	80	do.	do.	do.	do.	do.	do.	Brisk walk.	do.	
5	0.164	35.9	36.5	84	88	do.	do.	do.	do.	do.	do.	Gymnasium.	do.	
6	0.164	35.9	36.3	88	80	do.	do.	do.	do.	do.	do.	Brisk walk.	do.	
7	0.164	36.5	36.3	84	84	do.	do.	do.	do.	do.	do.	Gymnasium.	do.	
8	0.164	36.3	36.3	88	72	do.	do.	do.	do.	do.	do.	Brisk walk.	1 hard.	
9	0.164	36.2	37.0	88	96	do.	do.	do.	do.	do.	do.	do.	do.	
10	0.164	36.2	36.3	96	96	do.	do.	do.	do.	do.	do.	Gymnasium.	do.	
11	0.164	36.4	36.0	96	88	do.	do.	do.	do.	do.	do.	Brisk walk.	2 medi- um.	
12	0.164	35.9	36.1	88	88	do.	do.	do.	do.	do.	do.	Gymnasium.	1 hard.	
13	0.164	36.1	36.1	88	84	do.	do.	do.	do.	do.	do.	Brisk walk.	1 medi- um.	
14	0.164	36.2	36.2	84	88	do.	do.	do.	do.	do.	do.	do.	do.	
15	0.164	36.4	35.9	84	80	do.	do.	do.	do.	do.	do.	do.	do.	
16	0.164	36.4	36.0	84	76	do.	do.	do.	do.	do.	do.	do.	do.	
17	0.164	35.7	36.3	84	88	do.	do.	do.	do.	do.	do.	do.	do.	
18	0.164	35.7	36.2	80	84	do.	do.	do.	do.	do.	do.	do.	1 hard.	
19	0.125	35.7	38.0	84	84	do.	do.	do.	do.	do.	do.	do.	2 medi- um.	
20	0.125	35.7	36.0	84	84	do.	do.	do.	do.	do.	do.	do.	do.	
21	0.125	36.4	36.0	84	84	do.	do.	do.	do.	do.	do.	do.	1 medi- um.	
22	0.125	36.5	36.3	80	80	do.	do.	do.	do.	do.	do.	do.	do.	
23	0.125	36.3	36.8	84	92	do.	do.	do.	do.	do.	do.	do.	do.	
24	0.125	36.2	36.3	92	84	do.	do.	do.	do.	do.	do.	Gymnasium.	1 hard.	
25	0.125	35.8	35.7	92	80	do.	do.	do.	do.	do.	do.	Brisk walk.	do.	
26	0.125	35.7	36.0	68	76	do.	do.	do.	do.	do.	do.	Gymnasium.	do.	
27	0.125	36.2	36.3	72	84	do.	do.	do.	do.	do.	do.	Brisk walk.	do.	
28	0.125	36.3	36.2	84	84	do.	do.	do.	do.	do.	do.	Gymnasium.	1 medi- um.	

SUBJECT No. 7 (J. F. W.).

Mar. 1	36.4	35.4	73	53	Good	None	None	None	7-8 hours daily aver- age of sleep.		
2	36.4	36.2	73	55	do	do	do	do	Brisk walk.	1	do
3	35.9	35.7	72	49	do	do	do	do	Very little.	1	do
4	36.1	36.2	59	65	do	do	do	do	Walk	1 firm	do
5	36.2	36.1	65	64	do	do	do	do	do	do	do
6	35.8	35.5	62	56	do	do	do	do	do	1 soft	do
7	36.0	36.1	71	52	do	do	do	do	Very little.	1 firm	do
8	36.2	36.3	71	61	do	do	do	do	do	do	do
May 29	.0125	36.2	75.8	84	do	do	do	do	do	do	do
30	.0125	36.5	36.9	84	do	do	do	do	do	do	do
1	.0125	36.7	36.3	84	Not good.	do	do	do	do	Brisk walk.	1 hard
2	.0125	36.2	36.4	84	Fair	do	do	do	do	Gymnasium	do
3	.0196	35.7	36.0	84	do	do	do	do	do	Gymnasium	1
4	.0196	36.0	36.0	84	do	do	do	do	do	Brisk walk.	1 hard
5	.0196	36.2	36.3	84	do	do	do	do	do	Swimming	do
6	.0196	36.0	36.0	84	do	do	do	do	do	Brisk walk.	2 hard
7	.0196	36.0	36.0	84	do	do	do	do	do	do	do
8	.0196	36.0	36.2	84	do	do	do	do	do	Swimming	do
9	.0196	36.0	36.2	96	do	do	do	do	do	Brisk walk.	1 hard
10	.0196	35.2	36.1	96	do	do	do	do	do	Swimming	do
11	.0196	35.7	37.0	84	do	do	do	do	do	do	do
12	.0196	36.3	36.5	92	do	do	do	do	do	Brisk walk.	do
13	.0196	36.4	36.5	92	do	do	do	do	do	do	do
14	.0196	36.0	36.0	72	do	do	do	do	do	do	2 medi-
15	.0196	35.7	36.0	72	do	do	do	do	do	Swimming	un.
16	.0196	36.3	36.7	82	do	do	do	do	do	Brisk walk.	1 medi-
17	.0196	36.5	36.5	100	do	do	do	do	do	Swimming	un.
18	36.5	36.7	96	76	do	do	do	do	do	Brisk walk.	do
19	36.3	36.5	84	84	do	do	do	do	do	Swimming	1 hard
20	36.2	36.5	80	80	do	do	do	do	do	Brisk walk.	do
21	36.3	36.6	84	80	do	do	do	do	do	do	2 hard
22	36.5	36.3	88	96	do	do	do	do	do	Swimming	1 hard
23	36.3	36.3	88	72	do	do	do	do	do	Brisk walk.	do
24	36.1	36.3	88	68	do	do	do	do	do	do	do
25	36.7	36.2	96	72	do	do	do	do	do	do	do
26	36.3	36.1	88	76	do	do	do	do	do	do	1 soft
27	35.9	36.5	76	84	do	do	do	do	do	do	un.
28	35.8	36.5	84	84	do	do	do	do	do	do	do
29	36.5	36.4	84	72	do	do	do	do	do	do	1 hard
30	36.5	36.3	96	76	do	do	do	do	do	do	do

CHART VI.—*Clinical data*—Continued.

SUBJECT No. 7—Continued.

Date (1911).	Copper etc., in- gested, daily avg.	Body tempera- ture.		Pulse.	Appetite.	Nausea.	Headache.	Malaise.	Colic.	Sleep.	Exercise or work.	Stool.	Remarks.
		a. m.	p. m.										
		° C.	° C.	a. m.	p. m.								
Mar. 9	Gram.	36.0	36.5			Good.....	None.....	None.....	None.....	.....	1 hour.....	2 firm.....	
10		35.2	36.2	72	61	do.....	do.....	do.....	do.....	.....	Walk.....	1 firm.....	
11		35.8	35.8	81	71	do.....	do.....	do.....	do.....	.....	do.....	do.....	
12		36.2	36.3	65	59	do.....	do.....	do.....	do.....	.....	do.....	do.....	
13		36.1	35.8	61	56	do.....	do.....	do.....	do.....	.....	1 hour.....	do.....	
14		36.0	35.9	74	52	do.....	do.....	do.....	do.....	.....	None.....	do.....	Perspired profusely.
15	0.0169	35.9	35.8	62	49	do.....	do.....	do.....	do.....	.....	.....	do.....	
16	.0169	35.8	36.1	59	56	Slight, after supper	do.....	do.....	do.....	.....	Walk.....	do.....	
17	.0169	35.8	36.2	59	52	None.....	do.....	do.....	do.....	.....	do.....	do.....	
18	.0169	35.0	35.7	59	57	do.....	do.....	do.....	do.....	.....	2 hours.....	do.....	Do.
19	.0169	35.9	36.2	58	55	do.....	do.....	do.....	do.....	.....	None.....	do.....	
20	.0169	36.3	35.6	67	51	do.....	do.....	do.....	do.....	.....	Walk.....	do.....	
21	.0169	35.4	35.8	61	49	do.....	do.....	do.....	do.....	.....	1 hour.....	do.....	
22	.0169	36.0	35.8	61	55	do.....	do.....	do.....	do.....	.....	do.....	do.....	
23	.0169	35.2	34.9	63	54	do.....	do.....	do.....	do.....	.....	do.....	do.....	
24	.0169	35.0	35.2	63	57	do.....	do.....	do.....	do.....	.....	1 hour's walk.....	do.....	
25	.0169	35.9	36.4	60	54	do.....	do.....	do.....	do.....	.....	1 hour's walk.....	do.....	
26	.0169	35.1	36.1	62	56	do.....	do.....	do.....	do.....	.....	2 hours.....	do.....	
27	.0169	35.5	35.8	55	68	do.....	do.....	do.....	do.....	.....	20 minutes.....	do.....	
28	.0169	35.8	35.0	57	53	do.....	do.....	do.....	do.....	.....	3 hours' walk.....	do.....	Do.
29	.0169	35.7	36.2	50	54	do.....	do.....	do.....	do.....	.....	1 hour.....	do.....	
30	.0169	35.8	35.8	56	50	Slight.....	do.....	do.....	do.....	.....	do.....	do.....	
31	.0169	35.7	35.8	56	50	None.....	do.....	do.....	do.....	.....	do.....	do.....	
1 Apr. 2	.0169	36.0	36.0	56	62	do.....	do.....	do.....	do.....	.....	1 hour.....	1 medi- um.....	
3	.0169	35.9	35.8	57	60	do.....	do.....	do.....	do.....	.....	.....	1.....	
4	.0169	35.8	35.7	55	56	do.....	do.....	do.....	do.....	.....	.....	1 firm.....	
5	.0217	36.1	36.0	56	50	do.....	do.....	do.....	do.....	.....	.....	1.....	
6	.0217	36.1	36.0	50	55	do.....	do.....	do.....	do.....	.....	2 hours.....	1.....	
7	.0217	36.0	34.9	60	47	do.....	do.....	do.....	do.....	.....	1 hour.....	1 firm.....	
8	.0217	35.8	36.0	57	53	do.....	do.....	do.....	do.....	.....	2 hours' walk.....	1.....	

Diarrhea.

[illegible]

CHART VI.—*Clinical data—Continued.*
SUBJECT No. 8—Continued.

Date (1911).	Copper in peas, etc., in- gested, daily aver- age.	Body tempera- ture.		Pulse.		Appetite.	Nausea.	Headache.	Malaise.	Colic.	Sleep.	Exercise or work.	Stool.	Remarks.
		a. m.	p. m.	a. m.	p. m.									
May 14	Gram. 0.0321	36.5	36.4	66	66	Good	None	None	None	None	Walk	Sick at stomach.
15	.0321	36.8	36.5	72	68	Not good	do	do	Yes	do	.....	do	1 loose
16	.0321	36.3	36.8	72	68	Good	do	do	None	Yes	.....	do	do
17	36.4	36.2	72	88	do	do	do	do	None	.....	do	do	
18	36.4	36.5	72	66	do	do	do	do	do	.....	do	1	
19	36.0	36.4	72	66	do	do	do	do	do	.....	do	1 firm	
20	36.8	36.2	72	72	do	do	do	do	do	.....	do	do	
21	36.5	36.3	72	66	do	do	do	do	do	.....	do	do	
22	36.7	36.2	68	72	do	do	do	do	do	.....	do	do	
23	36.8	36.2	72	78	do	do	do	do	do	.....	do	do	
24	36.6	36.2	72	68	do	do	do	do	do	.....	do	do	
25	36.2	36.3	78	66	do	do	do	do	do	Dance	2 firm	Walk 2 loose 1 firm do do do
26	36.8	37.0	72	68	Not good	do	do	do	Yes	.....	do	do	
27	36.7	36.4	72	78	Good	Yes	do	do	do	.....	Walk	2 loose	
28	36.4	36.0	72	68	do	do	do	do	do	.....	do	1 firm	
29	36.2	36.6	72	78	do	do	do	do	do	.....	do	do	
30	36.6	35.9	68	78	do	do	do	do	do	.....	do	do	

CHART VII.—*Volume and specific gravity of urine, daily.*

SUBJECT No. 1 (E. H. B.).

Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.	Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.	Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.
	<i>Gram.</i>	<i>c. c.</i>			<i>Gram.</i>	<i>c. c.</i>			<i>Gram.</i>	<i>c. c.</i>	
Mar. 1	.....	1,390	1.012	Mar. 31	.....	710	1.027	May 2	.....	1,060	1.017
2	.....	1,890	1.010	Apr. 1	.....	1,210	1.017	3	.....	1,550	1.013
3	.....	1,250	1.016	2	.....	1,060	1.021	4	.....	1,010	1.019
4	.....	1,750	1.016	3	.....	1,150	1.017	5	.....	1,050	1.016
5	.....	1,950	1.013	4	.....	770	1.019	6	.....	680	1.025
6	.....	1,170	1.016	5	.....	1,010	1.020	7	.....	620	1.029
7	.....	930	1.020	6	.....	970	1.019	8	.....	700	1.029
8	.....	1,190	1.016	7	.....	630	1.026	9	.....	620	1.025
9	.....	1,610	1.018	8	.....	710	1.035	10	.....	510	1.027
10	.....	1,460	1.017	9	.....	720	1.026	11	.....	530	1.030
11	.....	1,430	1.017	10	.....	1,370	1.017	12	.....	640	1.026
12	.....	1,150	1.018	11	.....	890	1.023	13	.....	690	1.021
13	.....	850	1.025	12	.....	1,080	1.019	14	.....	710	1.025
14	.....	790	1.026	13	.....	670	1.023	15	.....	1,250	1.015
15	0.0171	1,210	1.020	14	.....	750	1.025	16	.....	620	1.026
16	.0180	1,390	1.024	15	.....	1,250	1.020	17	0.0314	620	1.028
17	.0191	1,320	1.020	16	.....	1,350	1.016	18	.0314	630	1.028
18	.0164	1,550	1.014	17	.....	1,010	1.023	19	.0314	570	1.029
19	.0168	1,250	1.020	18	.....	910	1.025	20	.0314	710	1.024
20	.0165	800	1.026	19	.....	780	1.025	21	.0314	900	1.021
21	.0179	650	1.028	20	.....	690	1.022	22	.....	560	1.030
22	.0165	550	1.029	21	.....	600	1.028	23	.....	620	1.030
23	.....	370	1.028	22	.....	1,160	1.017	24	.....	1,150	1.020
24	.....	1,200	1.019	23	.....	1,350	1.015	25	.....	1,170	1.019
25	.....	.....	.....	24	.....	820	1.022	26	.....	910	1.020
26	.....	.....	.....	25	.....	620	1.029	27	.....	770	1.023
27	.....	.....	.....	26	.....	570	1.031	28	.....	570	1.028
28	.....	810	1.023	27	.....	730	1.023	29	.....	1,050	1.019
29	.....	670	1.028	28	.....	540	1.028	30	.....	790	1.021
30	.....	850	1.023	29	.....	530	1.030				
				30	.....	610	1.025				
				May 1	.....	660	1.027				

SUBJECT No. 2 (M. R. B.).

Mar. 1	.....	1,650	1.010	Mar. 31	0.0176	1,050	1.021	May 1	0.0111	800	1.019
2	.....	1,600	1.010	Apr. 1	.0180	1,610	1.016	2	.0138	Lost.	.....
3	.....	2,335	1.012	2	.0167	1,390	1.018	3	.0193	1,210	1.014
4	.....	1,390	1.017	3	.0147	1,170	1.015	4	.0182	1,410	1.013
5	.....	1,570	1.019	4	.0146	1,740	1.020	5	.0206	820	1.021
6	.....	910	1.024	5	.0164	830	1.019	6	.0189	950	1.019
7	.....	1,350	1.016	6	.0182	630	1.028	7	.0179	990	1.016
8	.....	850	1.023	7	.0170	770	1.025	8	.0182	870	1.022
9	.....	1,610	1.019	8	.0158	2,170	1.016	9	.0198	1,100	1.015
10	.....	850	1.025	9	.0177	1,090	1.020	10	.0175	700	1.023
11	.....	1,720	1.016	10	.0156	1,070	1.017	11	.0189	540	1.030
12	.....	1,300	1.017	11	.0174	1,390	1.018	12	.0214	530	1.027
13	.....	1,130	1.019	12	.0176	1,120	1.020	13	.0201	640	1.024
14	.....	650	1.028	13	.0173	670	1.025	14	.0207	1,500	1.012
15	0.0171	1,350	1.018	14	.0164	1,500	1.019	15	.0202	900	1.019
16	.0180	1,480	1.020	15	.0140	1,890	1.011	16	.0210	930	1.018
17	.0191	1,460	1.020	16	.0152	1,710	1.015	17	.....	580	1.027
18	.0164	2,070	1.010	17	.0143	1,200	1.021	18	.....	1,110	1.018
19	.0168	1,290	1.019	18	.0164	1,220	1.016	19	.....	550	1.026
20	.0165	1,170	1.020	19	.0159	1,070	1.018	20	.....	1,010	1.020
21	.0179	910	1.025	20	.0119	1,390	1.013	21	.....	760	1.021
22	.0165	1,150	1.018	21	.0117	1,920	1.015	22	.....	720	1.024
23	.0147	1,510	1.018	22	.0122	1,260	1.016	23	.....	630	1.027
24	.0170	1,200	1.019	23	.0102	1,670	1.012	24	.....	1,300	1.014
25	.0179	1,150	1.021	24	.0125	1,350	1.012	25	.....	1,190	1.016
26	.0183	1,600	1.016	25	.0129	800	1.021	26	.....	830	1.020
27	.0162	910	1.019	26	.0128	540	1.031	27	.....	500	1.030
28	.0173	1,630	1.013	27	.0144	850	1.021	28	.....	570	1.030
29	.0186	1,290	1.015	28	.0089	1,320	1.014	29	.....	850	1.019
30	.0156	1,280	1.020	29	.0138	790	1.019	30	.....	700	1.023
				30	.0132	940	1.016				

CHART VII.—*Volume and specific gravity of urine, daily—Continued.*

SUBJECT No. 3 (O. H. C.).

Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.	Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.	Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.
	<i>Gram.</i>	<i>c. c.</i>			<i>Gram.</i>	<i>c. c.</i>			<i>Gram.</i>	<i>c. c.</i>	
Mar. 1	790	1.021	Mar. 31	0.0176	1,470	1.016	May 1	0.0111	1,420	1.016
2	700	1.020	Apr. 1	.0180	2,075	1.015	2	.0138	1,650	1.015
3	930	1.025	2	.0167	1,130	1.020	3	.0193	980	1.018
4	1,250	1.017	3	.0147	820	1.025	4	.0182	1,700	1.015
5	1,090	1.021	4	.0146	890	1.023	5	.0206	1,150	1.020
6	690	1.029	5	.0164	970	1.022	6	.0199	800	1.023
7	900	1.024	6	.0182	1,000	1.023	7	.0179	880	1.020
8	870	1.025	7	.0170	920	1.025	8	.0182	790	1.025
9	790	1.025	8	.0158	1,610	1.018	9	.0198	1,760	1.012
10	910	1.025	9	.0177	1,460	1.020	10	.0175	1,040	1.020
11	930	1.020	10	.0156	810	1.028	11	.0189	860	1.023
12	930	1.025	11	.0174	860	1.025	12	.0214	1,120	1.018
13	740	1.028	12	.0176	1,220	1.018	13	.0201	1,110	1.020
14	930	1.022	13	.0173	1,650	1.012	14	.0207	1,230	1.017
15	1,290	1.020	14	.0164	850	1.024	15	.0202	1,480	1.020
16	810	1.025	15	.0140	1,280	1.020	16	.0210	750	1.022
17	810	1.026	16	.0152	1,660	1.016				
18	1,060	1.021	17	.0143	1,350	1.021	17	.....	1,090	1.020
19	1,100	1.020	18	.0164	1,480	1.018	18	.....	1,180	1.022
20	740	1.026	19	.0159	950	1.024	19	.....	1,140	1.022
21	800	1.024	20	.0119	1,510	1.016	20	.....	1,160	1.020
22	570	1.026	21	.0117	1,070	1.021	21	.....	1,110	1.020
23	710	1.028	22	.0122	2,035	1.017	22	.....	870	1.025
24	850	1.028	23	.0102	1,420	1.017	23	.....	920	1.026
25	1,100	1.024	24	.0125	1,070	1.018	24	.....	1,470	1.016
26	1,350	1.017	25	.0129	1,190	1.018	25	.....	1,070	1.022
27	1,000	1.020	26	.0128	1,460	1.017	26	.....	1,090	1.020
				27	.0144	1,390	1.015	27	.....	1,130	1.021
28	0.0173	1,160	1.020	28	.0089	1,250	1.017	28	.....	990	1.022
29	.0186	1,110	1.019	29	.0138	830	1.025	29	.....	1,010	1.023
30	.0156	1,510	1.019	30	.0132	1,630	1.017	30	.....	890	1.024

SUBJECT No. 4 (E. S. F.).

Mar. 1	.....	1,100	1.012	Apr. 1	.....	910	1.023	May 2	.....	1,100	1.021
2	.....	1,350	1.015	2	.....	2,130	1.012	3	.....	1,510	1.010
3	.....	1,160	1.020	3	.....	1,490	1.016	4	.....	1,270	1.016
4	.....	1,100	1.022	4	.....	880	1.024	5	.....	770	1.022
5	.....	1,550	1.017	5	.....	1,470	1.015	6	.....	810	1.022
6	.....	950	1.026	6	.....	1,290	1.016	7	.....	880	1.024
7	.....	1,250	1.020	7	.....	1,510	1.016	8	.....	1,790	1.017
8	.....	750	1.029	8	.....	1,480	1.015	9	.....	1,200	1.019
9	.....	1,100	1.025	9	.....	2,100	1.015	10	.....	1,380	1.010
10	.....	1,250	1.019	10	.....	2,280	1.015	11	.....	980	1.019
11	.....	1,100	1.023	11	.....	1,410	1.018	12	.....	780	1.026
12	.....	1,350	1.019	12	.....	660	1.027	13	.....	640	1.028
13	.....	1,450	1.019	13	.....	1,430	1.013	14	.....	820	1.026
14	.....	1,350	1.019	14	.....	2,050	1.009	15	.....	710	1.028
15	.....	950	1.025	15	.....	1,150	1.019	16	.....	1,230	1.016
16	.....	1,650	1.012	16	.....	1,730	1.017				
17	.....	990	1.025	17	.....	1,060	1.025	17	0.0314	1,130	1.020
18	.....	2,145	1.011	18	.....	790	1.026	18	.0314	810	1.024
19	.....	2,250	1.014	19	.....	850	1.024	19	.0314	770	1.025
20	.....	1,790	1.016	20	.....	1,300	1.017	20	.0314	720	1.025
21	.....	1,180	1.019	21	.....	1,690	1.017	21	.0314	1,050	1.020
22	.....	1,010	1.019	22	.....	1,690	1.018				
23	.....	1,130	1.019	23	.....	2,420	1.010	22	.....	590	1.028
24	.....	1,150	1.020	24	.....	1,160	1.017	23	.....	1,050	1.020
25	.....	1,110	1.023	25	.....	870	1.022	24	.....	1,430	1.015
26	.....	2,065	1.017	26	.....	1,030	1.019	25	.....	1,050	1.021
27	.....	1,180	1.020	27	.....	1,430	1.018	26	.....	1,620	1.013
28	.....	890	1.022	28	.....	1,300	1.017	27	.....	810	1.025
29	.....	770	1.027	29	.....	670	1.029	28	.....	1,050	1.022
30	.....	1,510	1.019	30	.....	1,200	1.017	29	.....	920	1.025
31	.....	1,330	1.020	May 1	.....	1,010	1.020	30	.....	830	1.022

CHART VII.—*Volume and specific gravity of urine, daily*—Continued.

SUBJECT No. 5 (C. P. K.).

Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.	Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.	Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.
Mar.	<i>Gram.</i>	<i>c. c.</i>		Apr.	<i>Gram.</i>	<i>c. c.</i>		May	<i>Gram.</i>	<i>c. c.</i>	
1	1,540	1.015	1	0.0180	1,140	1.030	1	0.0222	1,070	1.021
2	959	1.022	2	.....	1,490	1.024	2	.....	1,530	1.020
3	1,050	1.017	3	.....	900	1.026	3	.....	1,460	1.016
4	1,150	1.023	4	.....	920	1.030	4	.....	1,730	1.013
5	1,420	1.020	5	.....	1,280	1.025	5	.....	1,180	1.018
6	1,200	1.026	6	.....	650	1.032	6	.....	990	1.020
7	1,450	1.021	7	.....	550	1.039	7	.....	950	1.020
8	950	1.028	8	.....	1,250	1.024	8	.....	1,130	1.024
9	900	1.028	9	.....	1,510	1.018	9	.....	1,140	1.018
10	1,050	1.022	10	.....	1,370	1.021	10	.....	1,210	1.017
11	1,400	1.021	11	.....	1,160	1.029	11	.....	500	1.023
12	900	1.022	12	.....	1,210	1.025	12	.....	730	1.023
13	1,030	1.029	13	.....	1,170	1.022	13	.....	1,220	1.026
14	650	1.030	14	.....	1,615	1.018	14	.....	950	1.022
15	0.0171	1,370	1.025	15	.....	890	1.027	15	.....	1,470	1.015
16	880	1.027	16	.....	1,280	1.026	16	.....	910	1.021
17	1,080	1.029	17	.....	1,380	1.025	17	.....	1,050	1.010
18	1,400	1.023	18	.....	1,180	1.030	18	.....	1,230	1.025
19	1,340	1.021	19	.....	880	1.032	19	.....	730	1.025
20	850	1.029	20	.....	770	1.030	20	.....	880	1.020
21	990	1.025	21	.....	.....	.....	21	.....	890	1.023
22	650	1.031	22	.....	.....	.....	22	.....	980	1.020
23	980	1.027	23	.....	.....	.....	23	.....	850	1.023
24	950	1.022	24	.....	.....	.....	24	.....	1,770	1.012
25	1,250	1.021	25	.....	.....	.....	25	.....	1,210	1.017
26	1,120	1.028	26	.....	.....	.....	26	.....	1,640	1.014
27	1,030	1.026	27	.....	1,040	1.020	27	.....	1,010	1.017
28	1,010	1.028	28	.....	1,350	1.019	28	.....	780	1.024
29	1,110	1.024	29	.....	1,320	1.020	29	.....	880	1.022
30	970	1.023	30	.....	1,140	1.020	30	.....	1,430	1.016
31	1,300	1.022	31	.....	1,440	1.020				

SUBJECT No. 6 (W. C. T.).

Mar.	1	.....	760	1.021	Mar.	31	0.0176	1,150	1.021	May	1	0.0111	650	1.029
	2	.....	970	1.016	Apr.	1	.....	1,650	1.017		2	.....	720	1.027
	3	.....	1,200	1.016		2	.....	1,130	1.020		3	.....	800	1.025
	4	.....	1,750	1.017		3	.....	920	1.026		4	.....	920	1.023
	5	.....	1,140	1.020		4	.....	710	1.026		5	.....	880	1.023
	6	.....	630	1.028		5	.....	680	1.026		6	.....	710	1.023
	7	.....	710	1.027		6	.....	840	1.025		7	.....	960	1.022
	8	.....	790	1.026		7	.....	780	1.028		8	.....	810	1.027
	9	.....	810	1.021		8	.....	1,610	1.017		9	.....	950	1.023
	10	.....	850	1.022		9	.....	1,890	1.016		10	.....	890	1.022
	11	.....	1,540	1.016		10	.....	720	1.030		11	.....	500	1.031
	12	.....	770	1.026		11	.....	550	1.028		12	.....	640	1.028
	13	.....	1,150	1.025		12	.....	650	1.030		13	.....	640	1.030
	14	.....	.....	.....		13	.....	670	1.030		14	.....	770	1.027
	15	.....	.....	.....		14	.....	1,320	1.020		15	.....	870	1.024
	16	.....	.....	.....		15	.....	840	1.028		16	.....	960	1.025
	17	.....	.....	.....		16	.....	1,050	1.023					
	18	.....	.....	.....		17	.....	1,060	1.024		17	.....	630	1.029
	19	.....	.....	.....		18	.....	950	1.026		18	.....	610	1.030
	20	.....	.....	.....		19	.....	1,010	1.023		19	.....	630	1.028
	21	.....	.....	.....		20	.....	1,050	1.024		20	.....	590	1.031
	22	0.0165	790	1.026		21	.....	840	1.026		21	.....	680	1.028
	23	.....	930	1.021		22	.....	880	1.025		22	.....	730	1.026
	24	.....	970	1.022		23	.....	1,180	1.022		23	.....	650	1.030
	25	.....	860	1.025		24	.....	710	1.029		24	.....	690	1.026
	26	.....	1,640	1.018		25	.....	560	1.030		25	.....	830	1.026
	27	.....	1,050	1.020		26	.....	610	1.030		26	.....	690	1.029
	28	.....	1,010	1.023		27	.....	730	1.028		27	.....	890	1.020
	29	.....	900	1.023		28	.....	710	1.027		28	.....	830	1.029
	30	.....	1,200	1.022		29	.....	800	1.025		29	.....	800	1.027
						30	.....	710	1.030		30	.....	620	1.025

CHART VII.—*Volume and specific gravity of urine, daily*—Continued.

SUBJECT No. 7 (J. F. W.).

Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.	Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.	Date (1911).	Cop- per in- gested.	Vol- ume.	Spe- cific grav- ity.
Mar. 1	<i>Gram.</i>	<i>c. c.</i>		Mar. 31	<i>Gram.</i>	<i>c. c.</i>		May 1	<i>Gram.</i>	<i>c. c.</i>	
2	.....	590	1.027	1	0.0176	760	1.032	2	0.0222	670	1.030
3	.....	1,440	1.030	2	0.0180	820	1.029	3	0.0276	650	1.031
4	.....	800	1.030	3	0.0167	1,600	1.017	4	0.0335	630	1.028
5	.....	1,380	1.016	4	0.0147	710	1.032	5	0.0324	710	1.026
6	.....	1,240	1.020	5	0.0146	740	1.030	6	0.0364	900	1.026
7	.....	670	1.030	6	0.0218	700	1.028	7	0.0347	1,150	1.020
8	.....	670	1.031	7	0.0242	670	1.030	8	0.0315	1,220	1.020
9	.....	620	1.032	8	0.0226	680	1.033	9	0.0315	750	1.030
10	.....	790	1.029	9	0.0210	1,020	1.025	10	0.0356	690	1.025
11	.....	650	1.030	10	0.0236	1,610	1.018	11	0.0299	630	1.030
12	.....	690	1.029	11	0.0208	740	1.026	12	0.0330	640	1.029
13	.....	1,030	1.022	12	0.0232	750	1.030	13	0.0381	680	1.024
14	.....	640	1.030	13	0.0234	730	1.028	14	0.0350	710	1.028
15	.....	620	1.032	14	0.0230	735	1.030	15	0.0366	750	1.028
16	0.0171	650	1.032	15	0.0218	1,210	1.023	16	0.0357	830	1.028
17	0.0180	1,050	1.024	16	0.0186	950	1.024	17	0.0370	730	1.026
18	0.0191	890	1.028	17	0.0202	810	1.028	18	.....	720	1.030
19	0.0164	1,000	1.023	18	0.0190	840	1.029	19	.....	730	1.030
20	0.0168	1,340	1.020	19	0.0218	750	1.031	20	.....	750	1.028
21	0.0165	650	1.030	20	0.0212	690	1.030	21	.....	790	1.021
22	0.0179	650	1.030	21	0.0237	690	1.032	22	.....	1,550	1.029
23	0.0165	610	1.031	22	0.0234	800	1.026	23	.....	600	1.028
24	0.0147	650	1.030	23	0.0243	1,700	1.018	24	.....	570	1.030
25	0.0170	780	1.030	24	0.0204	1,830	1.018	25	.....	790	1.027
26	0.0179	1,210	1.020	25	0.0249	720	1.027	26	.....	1,010	1.024
27	0.0183	950	1.021	26	0.0258	650	1.032	27	.....	1,230	1.021
28	0.0162	710	1.031	27	0.0255	650	1.030	28	.....	1,050	1.023
29	0.0173	670	1.029	28	0.0288	730	1.027	29	.....	660	1.030
30	0.0186	710	1.029	29	0.0177	700	1.030	30	.....	850	1.027
	0.0156	790	1.030	30	0.0276	630	1.028		.....	750	1.028
					0.0264	1,410	1.017				

SUBJECT No. 8 (M. W.).

Mar. 1	.....	1,270	1.018	Mar. 31	0.0176	990	1.024	May 1	0.0222	750	1.025
2	.....	1,670	1.017	1	0.0180	2,380	1.015	2	0.0276	1,350	1.020
3	.....	1,430	1.015	2	0.0167	1,430	1.016	3	0.0311	1,470	1.016
4	.....	1,390	1.016	3	0.0147	1,440	1.020	4	0.0305	1,180	1.017
5	.....	1,420	1.016	4	0.0146	1,210	1.021	5	0.0341	2,190	1.013
6	.....	1,450	1.016	5	0.0218	1,390	1.017	6	0.0323	1,340	1.019
7	.....	1,280	1.016	6	0.0242	1,380	1.020	7	0.0294	1,370	1.018
8	.....	1,530	1.016	7	0.0226	1,790	1.016	8	0.0291	790	1.027
9	.....	1,250	1.021	8	0.0210	2,070	1.017	9	0.0336	1,530	1.015
10	.....	990	1.020	9	0.0236	1,330	1.020	10	0.0275	1,370	1.013
11	.....	1,740	1.015	10	0.0208	1,160	1.027	11	0.0306	820	1.028
12	.....	1,030	1.023	11	0.0232	740	1.030	12	0.0359	580	1.030
13	.....	1,300	1.021	12	0.0234	1,300	1.020	13	0.0324	990	1.025
14	.....	1,210	1.021	13	0.0230	1,460	1.022	14	0.0342	920	1.024
15	0.0171	1,490	1.018	14	0.0218	720	1.024	15	0.0335	1,510	1.020
16	0.0180	1,720	1.018	15	0.0186	1,690	1.021	16	0.0345	920	1.021
17	0.0191	1,110	1.023	16	0.0202	1,810	1.018	17	.....	890	1.025
18	0.0164	1,620	1.015	17	0.0190	1,250	1.027	18	.....	870	1.023
19	0.0168	1,390	1.020	18	0.0218	1,500	1.023	19	.....	820	1.029
20	0.0165	1,390	1.021	19	0.0212	1,500	1.020	20	.....	1,290	1.018
21	0.0179	1,640	1.015	20	0.0237	1,630	1.020	21	.....	850	1.026
22	0.0165	1,350	1.020	21	0.0234	770	1.025	22	.....	970	1.020
23	0.0147	1,600	1.019	22	0.0243	1,280	1.020	23	.....	1,150	1.023
24	0.0170	1,320	1.018	23	0.0204	1,210	1.019	24	.....	1,220	1.011
25	0.0179	1,270	1.021	24	0.0249	1,810	1.018	25	.....	910	1.018
26	0.0183	1,210	1.020	25	0.0258	610	1.029	26	.....	820	1.022
27	0.0162	1,650	1.018	26	0.0255	1,270	1.021	27	.....	1,230	1.021
28	0.0173	1,830	1.015	27	0.0288	710	1.025	28	.....	800	1.028
29	0.0186	1,560	1.016	28	0.0177	1,180	1.021	29	.....	950	1.026
30	0.0156	1,700	1.020	29	0.0276	1,350	1.018	30	.....	820	1.023
				30	0.0264	790	1.025				

CHART VIII.—Distribution of nitrogen in urine.

SUBJECT No. 1 (E. H. B.).

FORE PERIOD.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Mar. 1.....		9.4	8.3	0.30		0.08	0.011		88.3	3.2		0.9	0.12	
2.....		8.3	7.0	.53	0.63	.04	.01	0.27	84.3	4.2	7.6	.5	.12	3.3
3.....		8.5	7.1	.37	.71	.03	.011	.28	83.5	4.4	8.4	.4	.12	3.3
4.....		8.3	6.9	.48	.57		.011		83.1	5.8	6.9		.12	
5.....		9.7		.38	.68	.08	.011			3.9	7.0	.8	.12	
6.....		9.5	8.1	.49	.69	.03	.01	.18	85.3	5.2	7.3	.3	.12	1.9
7.....		10.0	8.6	.42	.68		.011		86.0	4.2	6.8		.12	
8.....		9.7	8.2	.51	.59	.15	.01	.24	84.5	5.3	6.1	1.6	.11	2.5
9.....		10.2	8.5	.50	.71	.05	.011	.43	83.3	4.9	7.0	.5	.11	4.2
10.....		8.5	7.8	.51	.60	.04	.011	.34	83.9	5.5	6.5	.4	.11	3.7
11.....		8.5	6.9	.48	.60	.05	.011	.46	81.2	5.7	7.1	.6	.11	5.4
12.....		9.7	8.1	.50	.72	.07	.011	.30	83.5	5.2	7.4	.7	.11	3.1
13.....		10.2	8.5	.51	.67	.15	.011	.36	83.3	5.0	6.6	1.5	.11	3.5
14.....		11.4	9.9	.47	.68	.19	.011	.15	86.8	4.1	6.0	1.7	.11	1.3

PERIOD OF COPPER IN PEAS, ETC.

Mar. 15.....	0.0170	11.5	9.6	0.62	0.69	0.06	0.014	0.52	83.5	5.4	6.0	0.5	0.13	4.5
16.....	.0170	12.0	10.0	.61	.81	.06	.014	.51	83.3	5.1	6.8	.5	.13	4.3
17.....	.0170	10.8	9.0	.60	.79	.19	.014	.21	83.3	5.6	7.3	1.8	.13	1.9
18.....	.0170	9.8	8.3	.58	.65	.14	.014	.12	84.7	5.9	6.6	1.4	.13	1.2
19.....	.0170	9.7	8.0	.58	.69	.19	.014	.23	82.5	6.0	7.1	2.0	.13	2.4
20.....	.0170	10.0	8.3	.54	.74	.20	.014	.21	83.0	5.4	7.4	2.0	.13	2.1
21.....	.0170	10.9	9.3	.63	.67	.20	.014	.09	85.3	5.8	6.2	1.8	.13	.8
22.....	.0170	9.6	8.2	.44	.69	.19	.012	.07	85.4	4.6	7.2	2.0	.13	.7
23.....	.0170	6.0	5.0	.33		.11	.012		83.3	5.5		1.8	.13	

CONTROL PERIOD.

Mar. 28 ¹		11.3	9.7	0.55	0.63	0.17	0.012	0.24	85.8	4.9	5.6	1.5	0.13	2.1
29.....		9.9	8.1	.60	.67	.16	.014	.36	81.8	6.1	6.8	1.6	.14	3.6
30.....		9.5	8.0	.54	.70	.17	.014	.38	84.2	5.7	7.4	1.8	.14	.8
31.....		10.1	8.3	.57	.66	.18	.014	.38	82.2	5.6	6.5	1.8	.14	3.8
Apr. 1.....		10.7	9.0	.49	.63	.18	.014	.39	84.1	4.6	5.9	1.7	.14	3.6
2.....		9.4	7.6	.58	.69	.16	.014	.36	80.9	6.2	7.3	1.7	.14	3.8
3.....		9.7	8.1	.50	.68	.16	.014	.25	83.5	5.2	7.0	1.7	.14	2.6
4.....		9.2	7.6	.50	.66	.17	.014	.27	82.6	5.4	7.2	1.9	.14	2.9
5.....		10.0	8.4	.52	.70	.16	.011	.21	84.0	5.2	7.0	1.6	.12	2.1
6.....		7.8	6.1	.56	.71	.15	.011	.27	78.2	7.2	9.1	1.9	.12	3.5
7.....		7.9	6.4	.38	.65	.15	.011	.31	81.0	4.8	8.2	1.9	.12	3.9
8.....		9.4	7.9	.43	.66	.19	.011	.21	84.0	4.6	7.0	2.0	.12	2.2
9.....		9.9	8.4	.53	.62	.17	.011	.17	84.8	5.4	6.3	1.7	.12	1.7
10.....		9.7	8.3	.54	.68	.17	.011		85.6	5.6	7.0	1.8	.12	
11.....		10.0	8.1	.56	.73	.18	.011	.42	81.0	5.6	7.3	1.8	.12	4.2
12.....		9.6	7.8	.53	.63	.17	.014	.46	81.3	5.5	6.6	1.8	.15	4.8
13.....		9.0	7.2	.57	.67	.19	.014	.36	80.0	6.3	7.4	2.1	.15	4.0
14.....		9.1	7.5	.52	.64	.19	.014	.24	82.4	5.7	7.0	2.1	.15	2.6
15.....		9.7	8.0	.51	.67	.20	.014	.31	82.5	5.3	6.9	2.1	.15	3.2
16.....		9.7	7.9	.54	.70	.21	.014	.34	81.5	5.6	7.2	2.2	.15	3.5
17.....		10.3	8.4	.54	.64	.20	.014	.51	81.6	5.2	6.2	1.9	.15	5.0
18.....		10.0	8.5	.42	.69	.16	.014	.22	85.0	4.2	6.9	1.6	.15	2.2
19.....		9.8	8.2	.46	.65	.17	.011	.31	83.7	4.7	6.6	1.7	.12	3.2
20.....		9.0	7.5	.38	.61	.16	.011	.34	83.3	4.2	6.8	1.8	.12	3.8
21.....		9.5	8.0	.44	.61	.20	.011	.24	84.2	4.6	6.4	2.1	.12	2.5
22.....		10.5	8.8	.47	.68	.19	.011	.35	83.8	4.5	6.5	1.8	.12	3.3
23.....		9.4	7.7	.47	.62	.18	.011	.42	81.9	5.0	6.6	1.9	.12	4.5
24.....		8.8	7.1	.50	.61	.17	.011	.41	80.7	5.7	6.9	1.9	.12	4.7
25.....		9.1	7.3	.48	.69	.18	.011	.44	80.2	5.3	7.6	2.0	.12	4.8
26.....		9.4	7.8	.49	.74	.18	.012	.18	83.0	5.2	7.9	1.9	.13	1.9
27.....		9.9	8.2	.46	.67	.19	.012	.37	82.8	4.7	6.8	1.9	.13	3.7
28.....		9.5	7.9	.44	.68	.19	.012	.28	83.2	4.6	7.2	2.0	.13	3.0
29.....		9.3	7.5	.49	.73	.19	.012	.38	80.6	5.3	7.9	2.0	.13	4.1
30.....		9.2	7.5	.47	.65	.21	.012	.36	81.5	5.1	7.1	2.3	.13	3.9
May 1.....		9.2	7.5	.50	.62	.18	.012	.39	81.5	5.4	6.7	2.0	.13	4.3
2.....		9.9	8.3	.48	.55	.16	.012	.40	83.8	4.9	5.6	1.6	.13	4.0
3.....		9.9	8.1	.52	.61	.17	.010	.49	81.8	5.3	6.2	1.7	.10	5.0

¹ Sick Mar. 24-27.

CHART VIII.—*Distribution of nitrogen in urine*—Continued.

SUBJECT No. 1—Continued.

CONTROL PERIOD—Continued.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
May 4.....	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
5.....	9.2	7.5	0.51	0.56	0.17	0.010	0.45	81.5	5.5	6.1	1.9	0.10	4.9
6.....	9.1	7.4	.49	.65	.17	.010	.38	81.3	5.4	7.1	1.9	.10	4.2
7.....	8.6	7.0	.47	.71	.16	.010	.25	81.4	5.5	8.3	1.9	.10	2.9
8.....	9.9	8.3	.38	.70	.19	.010	.32	83.8	3.8	7.1	1.9	.10	3.2
9.....	10.3	8.5	.48	.69	.19	.010	.43	82.5	4.7	6.7	1.8	.10	4.2
10.....	9.6	7.9	.48	.71	.19	.010	.31	82.3	5.0	7.4	2.0	.10	3.2
11.....	8.2	6.6	.49	.62	.18	.011	.30	80.5	6.0	7.6	2.2	.13	3.7
12.....	7.9	6.2	.54	.71	.18	.011	.26	78.5	6.8	9.0	2.3	.13	3.3
13.....	8.7	7.1	.52	.69	.20	.011	.18	81.6	6.0	7.9	2.3	.13	2.1
14.....	7.5	6.0	.54	.66	.16	.011	.13	80.0	7.2	8.8	2.1	.13	1.7
15.....	8.6	7.1	.44	.68	.17	.011	.20	82.6	5.1	7.9	2.0	.13	2.3
16.....	9.0	7.3	.50	.68	.18	.011	.33	81.1	5.6	7.6	2.0	.13	3.7
16.....	8.1	6.4	.50	.64	.15	.011	.40	79.0	6.2	7.9	1.9	.13	4.9

PERIOD OF COPPER SULPHATE.

May 17.....	10.0314	9.7	7.9	0.52	0.65	0.17	0.011	0.45	81.4	5.4	6.7	1.8	0.11	4.6
18.....	.0314	9.7	7.9	.57	.64	.14	.011	.44	81.4	5.9	6.6	1.4	.11	4.5
19.....	.0314	9.8	8.1	.54	.68	.16	.011	.31	82.6	5.5	6.9	1.6	.11	3.2
20.....	.0314	8.9	7.5	.33	.58	.14	.011	.34	84.3	3.7	6.5	1.6	.11	3.8
21.....	.0314	8.9	7.3	.36	.66	.13	.011	.44	82.0	4.1	7.4	1.5	.11	4.9
22.....	.....	11.2	9.2	.47	.63	.14	.011	.75	82.2	4.2	5.6	1.3	.11	6.7
23.....	.....	10.9	9.1	.55	.61	.15	.011	.48	83.5	5.1	5.6	1.4	.11	4.4

AFTER PERIOD.

May 24.....	.....	11.3	9.4	0.57	0.61	0.15	0.013	0.56	83.2	5.0	5.4	1.3	0.13	5.0
25.....	.....	9.5	7.7	.64	.62	.14	.013	.39	81.1	6.7	6.5	1.5	.13	4.1
26.....	.....	8.7	7.0	.62	.54	.12	.013	.41	80.5	7.1	6.2	1.4	.13	4.7
27.....	.....	8.7	6.8	.68	.66	.13	.013	.42	78.2	7.8	7.6	1.5	.13	4.8
28.....	.....	9.0	7.2	.64	.62	.12	.013	.41	80.0	7.1	6.9	1.3	.13	4.6
29.....	.....	11.4	9.6	.62	.57	.18	.013	.42	84.2	5.4	5.0	1.6	.13	3.7
30.....	.....	9.2	7.5	.58	.65	.15	.013	.31	81.5	6.3	7.1	1.6	.13	3.4

SUMMARY: AVERAGES FOR PERIODS.

Mar. 1-14.....	.....	9.5	8.0	0.45	0.66	0.08	0.011	0.30	84.2	4.7	7.0	0.8	0.12	3.2
Mar. 15-23.....	0.0170	10.0	8.4	.55	.72	.15	.014	.17	84.0	5.5	7.2	1.5	.14	1.7
Mar. 28-Apr. 19.....	.....	9.6	8.0	.52	.67	.17	.013	.23	83.3	5.4	7.0	1.8	.14	2.4
Apr. 20-May 2.....	.....	9.4	7.8	.47	.65	.18	.012	.29	83.0	5.0	6.9	1.9	.13	3.1
May 3-16.....	.....	8.9	7.2	.49	.67	.18	.011	.35	80.9	5.5	7.5	2.0	.12	3.9
May 17-23.....	1.0314	9.9	8.1	.48	.64	.15	.011	.52	81.8	4.9	6.5	1.5	.11	5.3
May 24-30.....	.....	9.7	7.9	.62	.61	.14	.013	.42	81.5	6.4	6.3	1.4	.13	4.3

SUBJECT No. 2 (M. R. B.).

FORE PERIOD.

Mar. 1.....	.....	10.1	8.9	0.37	.....	0.06	0.009	.....	88.1	3.7	.....	0.6	0.08	.....
2.....	.....	10.0	8.6	.39	0.65	.04	.009	0.31	86.0	3.9	6.5	.4	.08	3.1
3.....	.....	8.4	7.1	.28	.57	.04	.009	.40	84.5	3.3	6.8	.5	.08	4.8
4.....	.....	11.7	10.1	.49	.79	.07	.009	.24	86.3	4.2	6.8	.6	.08	2.1
5.....	.....	11.3	.....	.46	.68	.06	.009	.....	.....	4.1	6.0	.5	.08	.....
6.....	.....	12.0	10.5	.50	.64	.05	.009	.30	87.5	4.2	5.3	.4	.08	2.5
7.....	.....	10.6	9.3	.44	.70	.04	.009	.11	87.7	4.2	6.6	.4	.08	1.0
8.....	.....	8.2	7.2	.24	.46	.13	.009	.16	87.8	2.9	5.6	1.6	.08	2.0
9.....	.....	13.5	11.5	.57	.91	.06	.009	.45	85.2	4.2	6.7	.4	.08	3.3
10.....	.....	10.1	8.8	.35	.62	.04	.009	.28	87.1	3.5	6.1	.4	.08	2.8
11.....	.....	11.0	9.5	.45	.70	.05	.009	.29	86.4	4.1	6.4	.5	.08	2.6
12.....	.....	11.0	9.4	.48	.71	.06	.009	.34	85.5	4.4	6.5	.5	.08	3.1
13.....	.....	11.4	9.7	.59	.68	.09	.009	.33	85.1	5.2	6.0	.8	.08	2.9
14.....	.....	10.9	9.3	.46	.70	.20	.009	.23	85.3	4.2	6.4	1.8	.08	2.1

¹ Five days, Cu as CuSO₄, in milk.

CHART VIII.—Distribution of nitrogen in urine—Continued.

SUBJECT No. 2—Continued.

PERIOD OF COPPER IN PEAS, ETC.

Date (1911).	Copper (daily average).	Total nitrogen.		Urea nitrogen.	Ammonia nitrogen.		Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
		Gm.	Gms.		Gm.	Gms.		Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Mar. 15.....	0.0169	11.3	9.7	0.47	0.70	0.13	0.010	0.29	85.8	4.2	6.2	1.2	0.09	2.6	0.09	2.6
16.....	.0169	10.7	9.3	.40	.64	.18	.010	.17	86.9	3.7	6.0	1.7	.09	1.6	.09	1.6
17.....	.0169	11.3	9.8	.47	.75	.17	.010	.10	86.7	4.2	6.6	1.5	.09	0.9	.09	0.9
18.....	.0169	10.8	9.3	.49	.77	.15	.010	.08	86.1	4.5	7.1	1.4	.09	0.7	.09	0.7
19.....	.0169	10.4	8.8	.46	.72	.16	.010	.35	84.6	4.4	6.9	1.5	.09	3.4	.09	3.4
20.....	.0169	11.3	9.9	.49	.70	.16	.010	.04	87.6	4.3	6.2	1.4	.09	0.4	.09	0.4
21.....	.0169	11.7	10.3	.41	.68	.19	.010	.11	88.0	3.5	5.8	1.6	.09	0.9	.09	0.9
22.....	.0169	11.8	10.4	.46	.73	.16	.011	.04	88.1	3.9	6.2	1.4	.10	0.4	.10	0.4
23.....	.0169	11.4	10.0	.47	.71	.17	.011	.04	87.7	4.1	6.2	1.5	.10	0.4	.10	0.4
24.....	.0169	11.4	9.9	.46	.68	.16	.011	.19	86.8	4.0	6.0	1.4	.10	1.7	.10	1.7
25.....	.0169	11.4	9.8	.46	.75	.20	.011	.18	86.0	4.0	6.6	1.8	.10	1.6	.10	1.6
26.....	.0169	12.3	11.0	.48	.75	.18	.011	.....	89.4	3.9	6.1	1.5	.10	.....	.10	.....
27.....	.0169	10.8	9.1	.49	.68	.22	.011	.30	84.3	4.5	6.3	2.0	.10	2.8	.10	2.8
28.....	.0169	11.7	10.2	.50	.63	.22	.011	.14	87.2	4.3	5.4	1.9	.10	1.2	.10	1.2
29.....	.0169	11.2	9.5	.56	.68	.16	.011	.29	84.8	5.0	6.1	1.4	.10	2.6	.10	2.6
30.....	.0169	10.9	9.4	.53	.70	.20	.011	.06	86.3	4.9	6.4	1.8	.10	0.6	.10	0.6
31.....	.0169	10.9	9.1	.57	.68	.18	.011	.36	83.5	5.2	6.2	1.7	.10	3.3	.10	3.3
Apr. 1.....	.0169	10.9	9.3	.50	.75	.19	.011	.15	85.3	4.6	6.9	1.7	.10	1.4	.10	1.4
2.....	.0169	9.6	7.8	.48	.74	.18	.011	.39	81.3	5.0	7.7	1.9	.10	4.1	.10	4.1
3.....	.0169	6.6	5.6	.31	.45	.10	.011	.13	84.8	4.7	6.8	1.5	.10	2.0	.10	2.0
4.....	.0169	17.2	14.7	.85	.96	.29	.011	.39	85.5	4.9	5.6	1.7	.10	2.3	.10	2.3
5.....	.0164	10.4	8.9	.47	.70	.16	.012	.16	85.6	4.5	6.7	1.5	.12	1.5	.12	1.5
6.....	.0164	10.6	8.9	.50	.75	.20	.012	.24	84.0	4.7	7.1	1.9	.12	2.3	.12	2.3
7.....	.0164	10.0	8.4	.51	.69	.....	.012	.....	84.0	5.1	6.9	.....	.12	.....	.12	.....
8.....	.0164	10.5	8.8	.59	.72	.16	.012	.22	83.8	5.6	6.9	1.5	.12	2.1	.12	2.1
9.....	.0164	7.7	6.3	.37	.55	.14	.012	.33	81.8	4.8	7.1	1.8	.12	4.3	.12	4.3
10.....	.0164	7.4	6.2	.38	.52	.12	.012	.17	83.8	5.1	7.0	1.6	.12	2.3	.12	2.3
11.....	.0164	12.2	10.2	.71	.90	.19	.012	.19	83.6	5.8	7.4	1.6	.10	1.6	.10	1.6
12.....	.0164	10.3	8.5	.58	.65	.16	.010	.30	83.5	5.6	6.3	1.6	.10	2.9	.10	2.9
13.....	.0164	8.8	7.4	.38	.64	.15	.010	.22	84.1	4.3	7.3	1.7	.10	2.5	.10	2.5
14.....	.0164	9.7	8.2	.42	.73	.15	.010	.19	84.6	4.3	7.5	1.6	.10	2.0	.10	2.0
15.....	.0164	10.9	9.4	.44	.71	.17	.010	.17	86.2	4.0	6.5	1.6	.10	1.6	.10	1.6
16.....	.0164	10.7	9.1	.48	.73	.15	.010	.23	85.1	4.5	6.8	1.4	.10	2.2	.10	2.2
17.....	.0164	11.1	9.4	.46	.68	.19	.010	.36	84.7	4.1	6.1	1.7	.10	3.2	.10	3.2
18.....	.0164	11.1	9.4	.48	.67	.13	.010	.41	84.7	4.3	6.0	1.2	.10	3.7	.10	3.7
19.....	.0125	12.0	10.2	.47	.70	.18	.012	.44	85.0	3.9	5.8	1.5	.11	3.7	.11	3.7
20.....	.0125	11.1	9.4	.54	.65	.18	.012	.32	84.7	4.9	5.9	1.6	.11	2.9	.11	2.9
21.....	.0125	11.4	9.7	.46	.65	.18	.012	.40	85.1	4.0	5.7	1.6	.11	3.5	.11	3.5
22.....	.0125	10.2	8.6	.46	.72	.18	.012	.23	84.3	4.5	7.1	1.8	.11	2.3	.11	2.3
23.....	.0125	10.7	9.0	.48	.65	.16	.012	.40	84.1	4.5	6.1	1.5	.11	3.7	.11	3.7
24.....	.0125	10.9	9.1	.62	.65	.17	.012	.35	83.5	5.7	6.0	1.6	.11	3.2	.11	3.2
25.....	.0125	11.7	9.9	.50	.73	.21	.012	.35	84.6	4.3	6.2	1.8	.11	3.0	.11	3.0
26.....	.0125	10.3	8.6	.48	.74	.20	.012	.27	83.5	4.7	7.2	1.9	.11	2.6	.11	2.6
27.....	.0125	11.2	9.5	.53	.65	.19	.012	.32	84.8	4.7	5.8	1.7	.11	2.9	.11	2.9
28.....	.0125	11.0	9.3	.54	.69	.19	.012	.27	84.6	4.9	6.3	1.7	.11	2.5	.11	2.5
29.....	.0125	9.6	7.9	.56	.72	.16	.012	.25	82.3	5.8	7.5	1.7	.11	2.6	.11	2.6
30.....	.0125	11.9	9.9	.57	.65	.19	.012	.58	83.2	4.8	5.5	1.6	.11	4.9	.11	4.9
May 1.....	.0125	10.5	8.7	.53	.62	.17	.012	.47	82.8	5.1	5.9	1.6	.11	4.5	.11	4.5
2.....	.0125	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3.....	.0196	11.1	9.3	.53	.63	.15	.010	.48	83.8	4.8	5.7	1.4	.09	4.3	.09	4.3
4.....	.0196	10.6	9.0	.50	.57	.13	.010	.39	84.9	4.7	5.4	1.2	.09	3.7	.09	3.7
5.....	.0196	10.5	8.9	.43	.70	.17	.010	.29	84.8	4.1	6.7	1.6	.09	2.8	.09	2.8
6.....	.0196	11.5	9.8	.46	.76	.18	.010	.29	85.2	4.0	6.6	1.6	.09	2.5	.09	2.5
7.....	.0196	12.3	10.5	.60	.70	.16	.010	.33	85.4	4.9	5.7	1.3	.09	2.7	.09	2.7
8.....	.0196	12.1	10.2	.58	.70	.17	.010	.44	84.3	4.8	5.8	1.4	.09	3.6	.09	3.6
9.....	.0196	11.2	9.5	.54	.68	.15	.010	.32	84.8	4.8	6.1	1.3	.09	2.9	.09	2.9
10.....	.0196	10.7	9.0	.48	.61	.17	.011	.43	84.1	4.5	5.7	1.6	.10	4.0	.10	4.0
11.....	.0196	10.9	9.1	.56	.74	.17	.011	.32	83.5	5.1	6.8	1.6	.10	2.9	.10	2.9
12.....	.0196	10.8	9.1	.52	.71	.18	.011	.28	84.3	4.8	6.6	1.7	.10	2.6	.10	2.6
13.....	.0196	10.6	8.8	.58	.73	.17	.011	.31	83.0	5.5	6.9	1.6	.10	2.9	.10	2.9
14.....	.0196	11.6	9.9	.53	.68	.17	.011	.31	85.3	4.6	5.9	1.5	.10	2.7	.10	2.7
15.....	.0196	10.8	9.0	.60	.73	.17	.011	.29	83.3	5.6	6.8	1.6	.10	2.7	.10	2.7
16.....	.0196	12.0	10.3	.60	.68	.17	.011	.24	85.8	5.0	5.7	1.4	.10	2.0	.10	2.0

CHART VIII.—*Distribution of nitrogen in urine*—Continued.

SUBJECT No. 2—Continued.

AFTER PERIOD.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
May 17.....		10.1	8.5	0.50	0.63	0.15	0.009	0.31	84.2	5.0	6.2	1.5	0.08	3.1
18.....		11.6	9.8	.53	.66	.16	.009	.44	84.5	4.6	5.7	1.4	.08	3.8
19.....		9.4	7.8	.43	.65	.20	.009	.31	83.0	4.6	6.9	2.1	.08	3.3
20.....		10.6	8.8	.59	.72	.17	.009	.31	83.0	5.6	6.8	1.6	.08	2.9
21.....		11.2	9.4	.52	.68	.18	.009	.41	83.9	4.6	6.1	1.6	.08	3.7
22.....		11.4	9.4	.55	.64	.18	.009	.32	82.5	4.8	5.6	1.6	.08	5.4
23.....		11.3	9.6	.54	.66	.17	.009	.62	85.0	4.8	5.3	1.5	.08	2.8
24.....		11.0	9.0	.58	.64	.15	.011	.62	81.8	5.3	5.3	1.4	.10	5.6
25.....		11.6	10.0	.54	.66	.18	.011	.21	86.2	4.7	5.7	1.6	.10	1.8
26.....		10.9	9.1	.51	.60	.16	.011	.52	83.5	4.7	5.5	1.5	.10	4.8
27.....		10.5	8.9	.64	.67	.12	.011	.16	84.8	6.1	6.4	1.1	.10	1.5
28.....		12.0	10.2	.48	.65	.15	.011	.51	85.0	4.0	5.4	1.3	.10	4.3
29.....		12.1	10.3	.62	.55	.18	.011	.44	85.1	5.1	4.5	1.5	.10	3.6
30.....		10.6	8.8	.54	.68	.17	.011	.40	83.0	5.1	6.4	1.6	.10	3.8

SUMMARY: AVERAGES FOR PERIODS.

Mar. 1-14.....		10.7	9.2	0.43	0.68	0.07	0.009	0.31	86.0	4.0	6.4	0.7	0.08	2.9
Mar. 15-Apr. 4.....	0.0169	11.2	9.7	.49	.71	.18	.011	.11	86.6	4.4	6.3	1.6	.10	1.0
Apr. 5-18.....	.0164	10.1	8.5	.48	.69	.16	.011	.26	84.2	4.8	6.8	1.6	.11	2.6
Apr. 19-May 2.....	.0125	11.0	9.2	.52	.68	.18	.012	.41	83.6	4.7	6.2	1.6	.11	3.7
May 3-16.....	.0196	11.2	9.5	.54	.69	.17	.011	.29	84.8	4.8	6.2	1.5	.10	2.6
May 17-30.....		11.0	9.3	.54	.65	.17	.010	.33	84.6	4.9	5.9	1.6	.09	3.0

SUBJECT No. 3 (O. H. C.).

FORE PERIOD.

Mar. 1.....		10.2	9.1	0.34	.....	0.05	0.011	.....	89.2	3.3	.....	0.5	0.10	.....
2.....		10.5	9.3	.19	0.65	.05	.011	.30	88.6	1.8	6.2	.5	.10	2.9
3.....		10.9	9.6	.39	.73	.04	.011	.13	88.1	3.6	6.7	.4	.10	1.2
4.....		10.8	9.4	.41	.60	.13	.011	.25	87.1	3.8	5.6	1.2	.10	2.3
5.....		9.7	.....	.51	.66	.07	.011	.....	.....	5.3	6.8	.7	.10	.....
6.....		10.6	9.3	.28	.73	.....	.011	.....	87.7	2.6	6.9	.....	.10	.....
7.....		11.7	10.3	.43	.70	.06	.011	.20	88.0	3.7	6.0	.5	.10	1.7
8.....		11.3	9.8	.50	.71	.05	.014	.23	86.7	4.4	6.3	.4	.13	2.0
9.....		11.1	9.8	.30	.73	.06	.014	.20	88.3	2.7	6.6	.5	.13	1.8
10.....		11.4	10.0	.41	.68	.07	.014	.23	87.7	3.6	6.0	.6	.13	2.0
11.....		11.1	9.2	.70	.73	.08	.014	.38	82.9	6.3	6.6	.7	.13	3.4
12.....		11.5	9.9	.50	.79	.07	.014	.23	86.1	4.4	6.9	.6	.13	2.0
13.....		11.2	9.7	.30	.75	.10	.014	.34	86.6	2.7	6.7	.9	.13	3.0
14.....		11.2	9.8	.39	.70	.15	.014	.15	87.5	3.5	6.3	1.3	.13	1.3
15.....		11.9	10.2	.46	.74	.16	.012	.33	85.7	3.9	6.2	1.3	.11	2.8
16.....		10.2	8.7	.38	.65	.16	.012	.30	85.3	3.7	6.4	1.6	.11	2.9
17.....		11.6	10.3	.44	.86	.15	.012	.....	88.8	3.8	7.4	1.3	.11	.....
18.....		11.1	9.7	.42	.78	.13	.012	.06	87.4	3.8	7.0	1.2	.11	0.5
19.....		10.4	8.8	.53	.74	.15	.012	.17	84.6	5.1	7.1	1.4	.11	1.6
20.....		9.9	8.6	.37	.67	.15	.012	.10	86.9	3.7	6.8	1.5	.11	1.0
21.....		12.2	10.5	.46	.99	.20	.012	.04	86.1	3.8	8.1	1.6	.11	3.3
22.....		13.2	11.5	.64	.85	.24	.013	.....	87.1	4.9	6.4	1.8	.10	.....
23.....		14.8	12.9	.67	.78	.18	.013	.26	87.2	4.5	5.3	1.2	.10	1.8
24.....		12.3	10.9	.43	.65	.18	.013	.13	88.6	3.5	5.3	1.5	.10	1.1
25.....		11.5	10.2	.45	.69	.19	.013	.....	88.7	3.9	6.0	1.7	.10	.....
26.....		12.2	10.7	.56	.81	.16	.013	.....	87.7	4.6	6.6	1.3	.10	.....
27.....		11.7	10.1	.54	.71	.18	.013	.16	86.3	4.6	6.1	1.5	.10	1.4

CHART VIII.—Distribution of nitrogen in urine—Continued.

SUBJECT No. 3—Continued.

PERIOD OF COPPER IN PEAS, ETC.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Mar. 28.....	0.0167	12.1	10.6	0.49	0.68	0.17	0.013	0.15	87.6	4.1	5.6	1.4	0.10	1.2
29.....	.0167	11.4	9.8	.53	.72	.16	.012	.18	86.0	4.7	6.3	1.4	.11	1.6
30.....	.0167	10.7	9.3	.41	.70	.17	.012	.11	86.9	3.8	6.5	1.6	.11	1.0
31.....	.0167	10.6	9.1	.43	.68	.16	.012	.22	85.9	4.1	6.4	1.5	.11	2.1
Apr. 1.....	.0167	10.6	9.0	.40	.68	.17	.012	.34	84.9	3.8	6.4	1.6	.11	3.2
2.....	.0167	9.6	8.2	.40	.67	.12	.012	.20	85.4	4.2	7.0	1.3	.11	2.1
3.....	.0167	9.6	8.2	.37	.64	.15	.012	.23	85.4	3.9	6.7	1.6	.11	2.4
4.....	.0167	10.9	9.2	.48	.72	.15	.012	.34	84.4	4.4	6.6	1.4	.11	3.1
5.....	.0167	10.8	9.2	.43	.65	.16	.013	.35	85.2	4.0	6.0	1.5	.12	3.2
6.....	.0167	11.1	9.5	.43	.74	.17	.013	.25	85.6	3.9	6.7	1.5	.12	2.3
7.....	.0167	11.4	9.8	.40	.69	.18	.013	.32	86.0	3.5	6.1	1.6	.12	2.8
8.....	.0167	11.1	9.5	.49	.72	.15	.013	.23	85.6	4.4	6.5	1.4	.12	2.1
9.....	.0167	11.1	9.3	.45	.70	.16	.013	.43	83.8	4.1	6.3	1.4	.12	4.3
10.....	.0167	11.1	9.3	.46	.74	.19	.013	.40	83.8	4.1	6.7	1.7	.12	3.6
11.....	.0167	11.1	9.6	.43	.75	.16	.013	.15	86.5	3.9	6.8	1.4	.12	1.4
12.....	.0142	10.9	9.3	.51	.68	.15	.010	.25	85.3	4.7	6.2	1.4	.09	2.3
13.....	.0142	11.8	10.1	.46	.70	.17	.010	.36	85.6	3.9	5.9	1.4	.09	3.1
14.....	.0142	10.0	8.5	.45	.74	.16	.010	.14	85.0	4.5	7.4	1.6	.09	1.4
15.....	.0142	11.5	10.0	.43	.70	.17	.010	.19	87.0	3.7	6.1	1.5	.09	1.7
16.....	.0142	10.9	9.5	.32	.73	.14	.010	.20	87.2	2.9	6.7	1.3	.09	1.8
17.....	.0142	11.8	10.0	.48	.73	.19	.010	.39	84.7	4.1	6.2	1.6	.09	3.3
18.....	.0142	11.4	9.7	.53	.70	.15	.010	.31	85.1	4.7	6.1	1.3	.09	2.7
19.....	.0142	11.3	9.5	.50	.68	.17	.017	.44	84.1	4.4	6.0	1.5	.16	3.9
20.....	.0142	11.0	9.4	.50	.64	.16	.017	.29	85.5	4.5	5.8	1.5	.16	2.6
21.....	.0142	10.5	9.0	.42	.68	.15	.017	.24	85.7	4.0	6.5	1.4	.16	2.3
22.....	.0142	11.7	10.1	.37	.71	.17	.017	.34	86.3	3.2	6.1	1.5	.16	2.9
23.....	.0142	10.3	8.5	.49	.63	.14	.017	.53	82.5	4.8	6.1	1.4	.16	5.2
24.....	.0142	10.6	8.9	.46	.69	.17	.017	.37	84.0	4.3	6.5	1.6	.16	3.5
25.....	.0142	10.6	9.0	.47	.68	.15	.017	.29	84.9	4.4	6.4	1.4	.16	2.7
26.....	.0126	11.1	9.4	.48	.74	.15	.019	.32	84.7	4.3	6.7	1.4	.18	2.9
27.....	.0126	10.2	8.6	.38	.64	.17	.019	.40	84.3	3.7	6.3	1.7	.18	3.9
28.....	.0126	9.6	8.0	.42	.70	.27	.019	.20	83.3	4.4	7.3	2.8	.18	2.1
29.....	.0126	9.7	8.1	.37	.71	.17	.019	.34	83.5	3.8	7.3	1.8	.18	3.5
30.....	.0126	11.6	9.8	.43	.66	.19	.019	.51	84.5	3.7	5.7	1.6	.18	4.4
May 1.....	.0126	10.6	8.8	.57	.66	.13	.019	.43	83.0	5.4	6.2	1.2	.18	4.1
2.....	.0126	11.5	9.9	.39	.62	.17	.019	.41	86.1	3.4	5.4	1.5	.18	3.6
3.....	.0196	10.0	8.3	.47	.59	.14	.011	.49	83.0	4.7	5.9	1.4	.10	4.9
4.....	.0196	11.1	9.3	.47	.63	.18	.011	.51	83.8	4.2	5.7	1.6	.10	4.6
5.....	.0196	11.7	9.9	.53	.72	.19	.011	.35	84.6	4.5	6.2	1.6	.10	3.0
6.....	.0196	9.6	8.2	.34	.71	.16	.011	.18	85.4	3.5	7.4	1.7	.10	1.9
7.....	.0196	12.2	10.4	.47	.73	.15	.011	.44	85.3	3.9	6.0	1.2	.10	3.6
8.....	.0196	12.6	10.7	.57	.73	.16	.011	.43	84.9	4.5	5.8	1.3	.10	3.4
9.....	.0196	12.3	10.6	.53	.72	.17	.011	.27	86.2	4.3	5.9	1.4	.10	2.2
10.....	.0196	10.1	8.3	.49	.68	.15	.010	.47	82.2	4.9	6.7	1.5	.10	4.7
11.....	.0196	10.1	8.4	.47	.75	.15	.010	.32	83.2	4.7	7.4	1.5	.10	3.2
12.....	.0196	10.8	9.0	.58	.73	.18	.010	.30	83.3	5.4	6.7	1.7	.10	2.8
13.....	.0196	10.1	8.4	.39	.75	.19	.010	.36	83.2	3.9	7.4	1.9	.10	3.6
14.....	.0196	10.9	9.0	.51	.72	.17	.010	.49	82.6	4.7	6.6	1.6	.10	4.5
15.....	.0196	11.1	9.3	.52	.74	.17	.010	.36	83.8	4.7	6.7	1.5	.10	3.2
16.....	.0196	9.9	8.4	.43	.68	.14	.010	.24	84.8	4.3	6.9	1.4	.10	2.4

AFTER PERIOD.

May 17.....	.....	11.4	9.5	0.64	0.69	0.18	0.012	0.38	83.3	5.6	6.1	1.6	0.11	3.3
18.....	.....	10.9	9.0	.56	.71	.18	.012	.44	82.6	5.1	6.5	1.7	.11	4.0
19.....	.....	10.8	9.1	.41	.73	.18	.012	.37	84.3	3.8	6.8	1.7	.11	3.4
20.....	.....	10.3	8.7	.46	.72	.15	.012	.26	84.5	4.5	7.0	1.5	.11	2.5
21.....	.....	10.7	8.9	.57	.75	.17	.012	.30	83.2	5.3	7.0	1.6	.11	2.8
22.....	.....	10.1	8.4	.48	.65	.16	.012	.40	83.2	4.8	6.4	1.6	.11	4.0
23.....	.....	12.4	10.7	.44	.71	.19	.012	.35	86.3	3.6	5.7	1.5	.11	2.8
24.....	.....	12.1	10.2	.56	.65	.16	.012	.52	84.3	4.6	5.4	1.3	.11	4.3
25.....	.....	10.5	8.8	.50	.67	.....	.012	.....	83.8	4.8	6.4	.....	.11	.....
26.....	.....	11.1	9.4	.49	.65	.18	.012	.37	84.7	4.4	5.9	1.6	.11	3.3
27.....	.....	10.7	9.0	.58	.66	.10	.012	.32	84.1	5.4	6.5	.9	.11	3.0
28.....	.....	11.1	9.8	.62	.69	.12	.012	.....	88.3	5.6	6.0	1.1	.11	.....
29.....	.....	11.5	9.7	.64	.60	.17	.012	.38	84.3	5.6	5.2	1.5	.11	3.3
30.....	.....	11.6	9.8	.47	.75	.16	.012	.41	84.5	4.1	6.5	1.4	.11	3.5

CHART VIII.—*Distribution of nitrogen in urine—Continued.*

SUBJECT No. 3—Continued.

SUMMARY: AVERAGES FOR PERIODS.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Mar. 1-14.....		10.9	9.6	0.40	0.71	0.08	0.013	0.10	88.1	3.7	6.5	0.7	0.12	0.9
Mar. 15-27.....		11.8	10.2	.49	.76	.17	.013	.17	86.4	4.2	6.4	1.4	.11	1.4
Mar. 28-Apr. 11..	0.0167	10.9	9.3	.44	.70	.16	.013	.29	85.3	4.0	6.4	1.5	.12	2.7
Apr. 12-May 2..	.0137	10.9	9.2	.45	.69	.17	.015	.37	84.4	4.1	6.3	1.6	.14	3.4
May 3-16.....	.0196	10.9	9.2	.48	.71	.16	.011	.34	84.4	4.4	6.5	1.5	.10	3.1
May 17-30.....		11.1	9.4	.53	.69	.15	.012	.32	84.7	4.8	6.2	1.4	.11	2.9

SUBJECT No. 4 (E. S. F.).

CONTROL PERIOD.

Date	Copper	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Mar. 1.....		9.3	8.3	0.28	.....	0.09	0.015	.....	89.2	3.0	.....	1.0	0.14	.....
2.....		10.6	9.2	.41	0.64	.....	.015	.....	86.8	3.9	6.0	.....	.14	.....
3.....		10.2	8.8	.38	.71	.04	.015	0.25	86.3	3.7	7.0	.4	.14	2.5
4.....		11.4	10.0	.33	.66	.05	.015	.34	87.7	2.9	5.8	.4	.14	3.0
5.....		11.1	.....	.44	.68	.....	.015	.....	.....	4.0	6.1	.....	.14	.....
6.....		11.0	9.5	.48	.69	.04	.015	.27	86.4	4.4	6.3	.4	.14	2.5
7.....		10.7	9.2	.55	.68	.08	.015	.17	86.0	5.1	6.4	.7	.14	1.6
8.....		9.5	8.2	.43	.65	.07	.013	.14	86.3	4.5	6.8	.7	.13	1.5
9.....		11.5	9.9	.46	.78	.05	.013	.30	86.1	4.0	6.8	.4	.13	2.6
10.....		10.2	8.9	.38	.66	.04	.013	.21	87.3	3.7	6.5	.4	.13	2.1
11.....		9.3	7.9	.43	.67	.04	.013	.25	85.0	4.6	7.2	.4	.13	2.7
12.....		10.4	8.9	.46	.64	.06	.013	.33	85.6	4.4	6.2	.6	.13	3.2
13.....		10.9	9.2	.48	.74	.11	.013	.36	84.4	4.4	6.8	1.0	.13	3.3
14.....		11.1	9.7	.52	.72	.26	.013	.....	87.4	4.7	6.5	2.3	.13	.....
15.....		10.1	8.4	.55	.68	.20	.010	.26	83.2	5.5	6.7	2.0	.10	2.6
16.....		9.7	8.4	.40	.54	.18	.010	.17	86.6	4.1	5.6	1.9	.10	1.8
17.....		9.0	7.6	.55	.77	.15	.010	.....	84.4	6.1	8.6	1.7	.10	.....
18.....		10.9	9.4	.58	.79	.24	.010	.....	86.2	5.3	7.3	2.2	.10	.....
19.....		9.6	8.0	.53	.71	.17	.010	.18	83.3	5.5	7.4	1.8	.10	1.9
20.....		10.7	9.0	.57	.73	.24	.010	.15	84.1	5.3	6.8	2.2	.10	1.4
21.....		11.2	9.8	.53	.73	.22	.010	.....	87.5	4.7	6.5	2.0	.10	.....
22.....		10.5	8.9	.54	.71	.18	.013	.16	84.8	5.1	6.8	1.7	.13	1.5
23.....		10.6	.....	.59	.71	.17	.013	.....	.....	5.6	6.7	1.6	.13	.....
24.....		9.9	8.4	.50	.75	.20	.013	.04	84.9	5.1	7.6	2.0	.13	0.4
25.....		10.1	8.7	.48	.73	.22	.013	.....	86.1	4.8	7.2	2.2	.13	.....
26.....		10.3	8.7	.51	.75	.20	.013	.13	84.5	5.0	7.3	1.9	.13	1.3
27.....		9.8	8.4	.27	.68	.18	.013	.26	85.7	2.8	6.9	1.8	.13	2.7
28.....		10.0	8.6	.52	.67	.19	.013	.01	86.0	5.2	6.7	1.9	.13	0.1
29.....		10.3	8.8	.45	.67	.20	.016	.16	85.4	4.4	6.5	1.9	.16	1.6
30.....		10.9	9.3	.58	.74	.26	.016	.01	85.3	5.3	6.8	2.4	.16	0.1
31.....		10.2	8.3	.65	.67	.24	.016	.32	81.4	6.4	6.6	2.4	.16	3.1
Apr. 1.....		9.1	7.3	.60	.70	.22	.016	.26	80.2	6.6	7.7	2.4	.16	2.9
2.....		10.3	8.7	.51	.67	.17	.016	.23	84.5	5.0	6.5	1.7	.16	2.2
3.....		9.9	8.4	.52	.72	.17	.016	.07	84.9	5.3	7.3	1.7	.16	0.7
4.....		10.0	8.6	.46	.67	.22	.016	.03	86.0	4.6	6.7	2.2	.16	0.3
5.....		11.0	9.2	.48	.67	.22	.016	.41	83.6	4.4	6.1	2.0	.16	3.7
6.....		9.3	7.6	.58	.73	.18	.016	.19	81.7	6.2	7.9	1.9	.16	2.0
7.....		9.7	7.9	.56	.67	.25	.016	.30	81.4	5.8	6.9	2.6	.16	3.1
8.....		8.4	6.8	.54	.73	.19	.016	.12	81.0	6.4	8.7	2.3	.16	1.4
9.....		9.4	7.7	.63	.66	.19	.016	.20	81.9	6.7	7.0	2.0	.16	2.1
10.....		10.6	8.7	.65	.76	.22	.016	.25	82.1	6.1	7.2	2.1	.16	2.4
11.....		10.7	8.9	.57	.77	.24	.016	.20	83.2	5.3	7.2	2.2	.16	1.9
12.....		8.9	7.2	.46	.68	.21	.013	.34	80.9	5.2	7.6	2.4	.13	3.8
13.....		10.8	8.8	.68	.67	.26	.013	.38	81.5	6.3	6.2	2.4	.13	3.5
14.....		9.2	7.5	.55	.73	.21	.013	.20	81.5	6.0	7.9	2.3	.13	2.2
15.....		8.8	7.3	.45	.70	.20	.013	.14	83.0	5.1	8.0	2.3	.13	1.6
16.....		10.1	8.4	.47	.72	.18	.013	.32	83.2	4.7	7.1	1.8	.13	3.2
17.....		10.6	8.9	.49	.70	.20	.013	.30	84.0	4.6	6.6	1.9	.13	2.8
18.....		10.5	8.8	.52	.68	.17	.013	.32	83.8	5.0	6.5	1.6	.13	3.1
19.....		10.5	8.7	.60	.69	.18	.012	.32	82.9	5.7	6.6	1.7	.12	3.1
20.....		10.3	8.6	.38	.67	.22	.012	.42	83.5	3.7	6.5	2.1	.12	4.1
21.....		10.2	8.4	.47	.65	.19	.012	.48	82.4	4.6	6.4	1.9	.12	4.7
22.....		10.0	8.2	.46	.69	.16	.012	.48	82.0	4.6	6.9	1.6	.12	4.8
23.....		10.8	8.9	.46	.65	.19	.012	.59	82.4	4.3	6.0	1.8	.12	5.5
24.....		10.3	8.4	.60	.66	.20	.012	.43	81.6	5.8	6.4	1.9	.12	4.2
25.....		11.1	9.3	.60	.73	.20	.012	.26	83.8	5.4	6.6	1.8	.12	2.3
26.....		10.7	8.9	.54	.71	.21	.014	.33	83.2	5.1	6.6	2.0	.13	3.1

CHART VIII.—Distribution of nitrogen in urine—Continued.

SUBJECT No. 4—Continued.

CONTROL PERIOD—Continued.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Apr. 27.....		11.0	9.0	0.59	0.66	0.29	0.044	0.45	81.8	5.4	6.0	2.6	0.13	4.1
28.....		10.6	8.7	.64	.68	.15	.014	.42	82.1	6.0	6.4	1.4	.13	4.0
29.....		9.2	7.4	.60	.68	.23	.014	.28	80.4	6.5	7.4	2.5	.13	3.0
30.....		11.2	9.4	.61	.61	.20	.014	.37	83.9	5.5	5.5	1.8	.13	3.3
May 1.....		10.9	9.2	.53	.55	.20	.014	.31	84.4	4.9	6.0	1.8	.13	2.8
2.....		11.2	9.5	.53	.55	.20	.014	.41	84.8	4.7	4.9	1.8	.13	3.7
3.....		11.2	9.3	.46	.65	.21	.010	.56	83.0	4.1	5.8	1.9	.09	5.0
4.....		10.7	9.0	.51	.62	.16	.010	.40	84.1	4.8	5.8	1.5	.09	3.7
5.....		10.4	8.7	.53	.68	.19	.010	.29	83.7	5.1	6.5	1.8	.09	2.8
6.....		12.3	10.6	.52	.77	.23	.010	.17	86.2	4.2	6.3	1.9	.09	1.4
7.....		10.7	8.8	.56	.71	.21	.010	.41	82.2	5.2	6.6	2.0	.09	3.8
8.....		12.5	10.6	.55	.70	.21	.010	.43	84.8	4.4	5.6	1.7	.09	3.4
9.....		10.8	9.1	.48	.65	.21	.010	.35	84.3	4.4	6.0	1.9	.11	3.2
10.....		10.4	8.7	.46	.65	.19	.012	.39	83.7	4.4	6.3	1.8	.11	3.8
11.....		10.6	8.9	.48	.73	.27	.012	.21	84.0	4.5	6.9	2.6	.11	2.0
12.....		10.5	8.8	.54	.73	.16	.012	.26	83.8	5.1	7.0	1.5	.11	2.5
13.....		10.9	9.0	.56	.73	.25	.012	.35	82.6	5.1	6.7	2.3	.11	3.2
14.....		13.0	11.0	.60	.70	.24	.012	.45	84.6	4.6	5.4	1.9	.11	3.5
15.....		11.9	9.9	.67	.73	.20	.012	.39	83.2	5.6	6.1	1.7	.11	3.3
16.....		12.3	10.2	.58	.64	.19	.012	.68	82.9	4.7	5.2	1.5	.11	5.5

PERIOD OF COPPER SULPHATE.

May 17.....	1.0314	10.8	9.1	0.48	0.67	0.20	0.014	0.34	84.3	4.4	6.2	1.9	0.12	3.2
18.....	1.0314	10.7	9.0	.47	.65	.17	.014	.40	84.1	4.4	6.1	1.6	.12	3.7
19.....	1.0314	10.9	9.2	.50	.69	.17	.014	.33	84.4	4.6	6.3	1.6	.12	3.0
20.....	1.0314	11.8	9.9	.60	.73	.18	.014	.38	83.9	5.1	6.2	1.5	.12	3.2
21.....	1.0314	12.3	10.3	.57	.68	.17	.014	.57	83.7	4.6	5.5	1.4	.12	4.6
22.....		9.8	8.1	.51	.63	.16	.014	.39	82.7	5.2	6.4	1.6	.12	4.0
23.....		13.2	11.2	.55	.71	.21	.014	.52	84.9	4.2	5.4	1.6	.12	3.9

AFTER PERIOD.

May 24.....		10.9	8.8	0.60	0.58	0.18	0.013	0.73	80.7	5.5	5.3	1.7	0.12	6.7
25.....		11.1	9.2	.54	.67	.19	.013	.49	82.9	4.9	6.0	1.7	.12	4.4
26.....		11.4	9.6	.53	.61	.17	.013	.48	84.2	4.7	5.4	1.5	.12	4.2
27.....		10.3	8.6	.52	.66	.13	.013	.37	83.5	5.1	6.4	1.3	.12	3.6
28.....		11.8	10.0	.58	.65	.12	.013	.44	84.7	4.9	5.5	1.0	.12	3.7
29.....		12.4	10.6	.51	.58	.20	.013	.50	85.5	4.1	4.7	1.6	.12	4.0
30.....		10.9	9.2	.48	.73	.19	.013	.29	84.4	4.4	6.7	1.7	.12	2.7

SUMMARY: AVERAGES FOR PERIODS.

Mar. 1-14.....		10.5	9.1	0.43	0.69	0.07	0.014	0.20	86.7	4.1	6.6	0.7	0.13	1.9
Mar. 15-Apr. 4.....		10.1	8.6	.52	.70	.20	.013	.07	85.2	5.2	6.9	2.0	.13	0.7
Apr. 5-18.....		9.9	8.1	.55	.71	.21	.015	.32	81.8	5.6	7.2	2.1	.15	3.2
Apr. 19-May 2.....		10.6	8.8	.54	.66	.20	.013	.39	83.0	5.1	6.2	1.9	.12	3.7
May 3-16.....		11.3	9.5	.54	.69	.21	.011	.35	84.1	4.8	6.1	1.9	.10	3.1
May 17-23.....	1.0314	11.4	9.5	.53	.68	.18	.014	.50	83.3	4.6	6.0	1.6	.12	4.4
May 24-30.....		11.3	9.4	.54	.64	.17	.013	.54	83.2	4.8	5.7	1.5	.12	4.8

¹Cu as CuSO₄ in milk, 5 days.

CHART VIII.—*Distribution of nitrogen in urine—Continued.*

SUBJECT No. 5 (C. P. K.).

FORE PERIOD.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gms.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Mar. 1.....		11.3	10.1	0.34		0.07	0.012		89.4	3.0		0.6	0.11	
2.....		10.9	9.4	.37	0.77		.012		86.2	3.4	7.1		.11	
3.....		9.4	8.0	.41	.66	.04	.012	0.28	85.1	4.4	7.0	.4	.11	3.0
4.....		13.0	11.1	.63	.87	.05	.012	.34	85.4	4.9	6.7	.4	.11	2.6
5.....		9.9		.28	.60	.05	.012			2.8	6.1	.5	.11	
6.....		13.5	11.4	.67	.86	.04	.012	.52	84.4	5.0	6.4	.3	.11	3.9
7.....		11.6	10.0	.50	.73	.06	.012	.30	86.2	4.3	6.3	.5	.11	2.6
8.....		11.9	10.2	.37	.70	.07	.012	.55	85.7	3.1	5.9	.6	.11	4.6
9.....		12.2	10.3	.62	.74	.05	.012	.48	84.4	5.1	6.1	.4	.11	3.9
10.....		8.7	7.6	.30	.55	.04	.012	.20	87.4	3.5	6.3	.5	.11	2.3
11.....		13.1	10.9	.66	.91	.06	.012	.56	83.2	5.0	7.0	.5	.11	4.3
12.....		8.4	7.1	.35	.56	.06	.012	.32	84.5	4.2	6.7	.7	.11	3.8
13.....		13.3	11.1	.74	.94	.08	.012	.43	83.5	5.6	7.1	.6	.11	3.2
14.....		8.7	7.6	.32	.58	.16	.012	.03	87.4	3.7	6.7	1.8	.11	.3

PERIOD OF COPPER IN PEAS, ETC.

Mar. 15.....	0.0169	14.8	12.5	0.72	0.97	0.12	0.014	0.48	84.5	4.9	6.6	0.8	0.12	3.2
16.....	.0169	8.6	7.3	.37	.53	.16	.014	.23	84.9	4.3	6.2	1.9	.12	2.7
17.....	.0169	12.6	10.9	.42	1.00	.17	.014	.10	86.5	3.3	7.9	1.4	.12	0.8
18.....	.0169	11.4	9.8	.60	.81	.18	.014		86.0	5.3	7.1	1.6	.12	
19.....	.0169	11.5	9.8	.63	.73	.18	.014	.15	85.2	5.5	6.4	1.6	.12	1.3
20.....	.0169	11.2	9.3	.57	.78	.19	.014	.35	83.0	5.1	7.0	1.7	.12	3.1
21.....	.0169	12.1	10.4	.60	.78	.20	.014	.11	85.9	5.0	6.5	1.7	.12	0.9
22.....	.0169	11.3	9.6	.64	.75	.18	.015	.11	85.0	5.7	6.6	1.6	.13	1.0
23.....	.0169	13.6	11.7	.69	.75	.19	.015	.25	86.0	5.1	5.5	1.4	.13	1.8
24.....	.0169	8.4	7.1	.42	.56	.12	.015	.18	84.5	5.0	6.7	1.4	.13	2.1
25.....	.0169	10.6	8.8	.65	.74	.21	.015	.18	83.0	6.1	7.0	2.0	.13	1.7
26.....	.0169	13.5	11.0	.91	1.08	.26	.015	.23	81.5	6.7	8.0	1.9	.13	1.7
27.....	.0169	11.0	9.2	.68	.74	.18	.015	.18	83.6	6.2	6.7	1.6	.13	1.6
28.....	.0169	12.5	10.7	.64	.70	.21	.015	.23	85.6	5.1	5.6	1.7	.13	1.8
29.....	.0169	11.0	9.2	.63	.71	.18	.014	.27	83.6	5.7	6.5	1.6	.13	2.5
30.....	.0169	8.3	7.0	.37	.55	.15	.014	.22	84.3	4.5	6.6	1.8	.13	2.7
31.....	.0169	9.5	7.9	.49	.60	.14	.014	.36	83.2	5.2	6.3	1.5	.13	3.8
Apr. 1.....	.0169	12.0	9.9	.71	.86	.23	.014	.29	82.5	5.9	7.2	1.9	.13	2.4
2.....	.0169	13.2	10.8	.88	.93		.014		81.8	6.7	7.0		.13	
3.....	.0169	8.9	7.5	.40	.57	.16	.014	.26	84.3	4.5	6.4	1.8	.13	2.9
4.....	.0169	12.5	10.6	.64	.73	.22	.014	.29	84.8	5.1	5.8	1.8	.13	2.3
5.....	.0217	13.6	11.1	.81	.83	.24	.015	.60	81.6	6.0	6.1	1.8	.14	4.4
6.....	.0217	10.1	7.8	.65	.81	.22	.015	.60	77.2	6.4	8.0	2.2	.14	5.9
7.....	.0217	8.0	6.6	.37	.50	.16	.015	.35	82.5	4.6	6.3	2.0	.14	4.4
8.....	.0217	8.6	7.0	.51	.73		.015		81.4	5.9	8.5		.14	
9.....	.0217	11.0	9.0	.80	.64	.18	.015	.36	81.8	7.3	5.8	1.6	.14	3.3
10.....	.0217	9.8	8.1	.52	.69	.18	.015	.29	82.7	5.3	7.0	1.8	.14	3.0
11.....	.0217	12.5	10.3	.58	.86	.24	.015	.51	82.4	4.6	6.9	1.9	.14	4.1
12.....	.0217	12.0	10.2	.62	.68	.20	.014	.29	85.0	5.2	5.7	1.7	.11	2.4
13.....	.0217	10.9	9.0	.68	.68	.26	.013	.27	82.6	6.2	6.2	2.4	.11	2.5
14.....	.0217	10.5	8.8	.52	.78	.19	.013	.20	83.8	5.0	7.4	1.8	.11	1.9
15.....	.0217	9.1	7.2	.56	.70	.17	.013	.46	79.1	6.2	7.7	1.9	.11	5.1
16.....	.0217	11.6	9.5	.64	.77	.21	.013	.47	81.9	5.5	6.6	1.8	.11	4.1
17.....	.0217	11.7	9.5	.67	.75	.19	.013	.58	81.2	5.7	6.4	1.6	.11	5.0
18.....	.0217	14.9	12.2	.80	.97	.27	.013	.65	81.9	5.4	6.5	1.8	.11	4.4
19.....	.0217	12.0	9.9	.62	.74	.22	.020	.50	82.5	5.2	6.2	1.8	.17	4.2
20.....	(1)	12.0	9.7	.67	.85	.21	.020	.55	80.8	5.6	7.1	1.8	.17	4.6
26.....	.0251	11.2	9.1	.55	.68	.18	.012	.68	81.2	4.9	6.1	1.6	.11	6.1
27.....	.0251	8.5	7.1	.37	.45	.15	.012	.42	83.5	4.4	5.3	1.8	.11	4.9
28.....	.0251	10.6	8.9	.44	.65	.20	.012	.40	84.0	4.2	6.1	1.9	.11	3.8
29.....	.0251	11.1	9.2	.56	.74	.24	.012	.35	82.9	5.0	6.7	2.2	.11	3.2
30.....	.0251	13.9	11.4	.73	.79	.27	.012	.70	82.0	5.3	5.7	1.9	.11	5.0
May 1.....	.0251	10.3	8.4	.52	.62	.21	.012	.54	81.6	5.1	6.0	2.0	.11	5.2
2.....	.0251	11.6	9.7	.60	.57	.22	.012	.50	83.6	5.2	4.9	1.9	.11	4.3
3.....	.0321	10.7	8.7	.59	.62	.20	.009	.58	81.3	5.5	5.8	1.9	.09	5.4
4.....	.0321	10.9	9.0	.54	.63	.21	.009	.51	82.6	5.0	5.8	1.9	.09	4.7
5.....	.0321	10.1	8.3	.49	.68	.20	.009	.42	82.2	4.9	6.7	2.0	.09	4.2
6.....	.0321	10.4	8.7	.58	.78	.19	.009	.14	83.6	5.6	7.5	1.8	.09	1.4
7.....	.0321	8.0	6.5	.49	.57	.16	.009	.27	81.3	6.1	7.1	2.0	.09	3.4

¹ No Cu on Apr. 20; sick Apr. 21-25.

CHART VIII.—*Distribution of nitrogen in urine*—Continued.

SUBJECT No. 5—Continued.

PERIOD OF COPPER IN PEAS, ETC.—Continued.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gms.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
May 8.....	0.0321	11.8	9.4	0.78	0.87	0.16	0.009	0.58	79.7	6.6	7.4	1.4	0.09	4.9
9.....	.0321	10.6	8.8	.62	.67	.20	.009	.30	83.0	5.9	6.3	1.9	.09	2.8
10.....	.0321	9.5	7.8	.52	.65	.19	.010	.33	82.1	5.5	6.8	2.0	.10	3.5
11.....	.0321	6.0	5.1	.23	.42	.17	.010	.07	85.0	3.8	7.0	2.8	.10	1.2
12.....	.0321	9.4	7.9	.38	.66	.11	.010	.34	84.1	4.0	7.0	1.2	.10	3.6
13.....	.0321	15.2	12.4	.80	1.08	.31	.010	.60	81.6	5.3	7.1	2.0	.10	4.0
14.....	.0321	10.8	9.0	.57	.73	.20	.010	.29	83.3	5.3	6.8	1.9	.10	2.7
15.....	.0321	10.4	8.3	.72	.72	.18	.010	.47	79.8	6.9	6.9	1.7	.10	4.5
16.....	.0321	10.2	8.1	.56	.68	.18	.010	.67	79.4	5.5	6.7	1.8	.10	6.6

AFTER PERIOD.

May 17.....	5.3	4.3	0.21	0.31	0.09	0.012	0.38	81.1	4.0	5.9	1.7	0.12	7.2
18.....	13.6	10.4	.95	1.00	.30	.012	.94	76.5	7.0	7.4	2.2	.12	6.9
19.....	9.0	7.1	.53	.73	.19	.012	.44	78.9	5.9	8.1	2.1	.12	4.9
20.....	9.8	7.9	.58	.72	.17	.012	.42	80.6	5.9	7.4	1.7	.12	4.3
21.....	10.5	8.6	.62	.67	.20	.012	.40	81.9	5.9	6.4	1.9	.12	3.8
22.....	9.9	7.9	.60	.64	.20	.012	.55	79.8	6.1	6.5	2.0	.12	5.6
23.....	10.3	8.4	.57	.66	.20	.012	.46	81.6	5.5	6.4	1.9	.12	4.5
24.....	10.1	8.1	.68	.63	.18	.014	.50	80.2	6.7	6.2	1.8	.13	5.0
25.....	9.8	7.8	.58	.64	.19	.014	.58	79.6	5.9	6.5	1.9	.13	5.9
26.....	10.0	7.9	.57	.63	.20	.014	.69	79.0	5.7	6.3	2.0	.13	6.9
27.....	8.9	6.9	.64	.68	.15	.014	.52	77.5	7.2	7.6	1.7	.13	5.8
28.....	10.0	8.0	.61	.65	.14	.014	.59	80.0	6.1	6.5	1.4	.13	5.9
29.....	11.8	9.8	.73	.60	.19	.014	.47	83.0	6.2	5.1	1.6	.13	4.0
30.....	12.1	10.1	.65	.71	.20	.014	.43	83.5	5.4	5.9	1.7	.13	3.6

SUMMARY: AVERAGES FOR PERIODS.

Mar. 1-14....	11.1	9.6	0.47	0.73	0.06	0.012	0.23	86.5	4.2	6.6	0.5	0.11	2.1
Mar. 15-Apr. 4....	0.0169	11.4	9.6	.76	.18	.014	.25	84.2	5.3	6.7	1.6	.12	2.2
Apr. 5-20....	.0217	11.1	9.1	.63	.75	.21	.015	.39	82.0	5.7	6.8	1.9	3.5
Apr. 26-May 2....	.0251	11.0	9.1	.54	.64	.21	.012	.50	82.7	4.9	5.8	1.9	4.6
May 3-16....	.0321	10.3	8.4	.56	.70	.19	.010	.44	81.6	5.4	6.8	1.8	4.3
May 17-30....	10.1	8.1	.61	.66	.19	.013	.53	80.2	6.0	6.5	1.9	.13	5.3

SUBJECT No. 6 (W. C. T.).

FORE PERIOD.

Mar. 1.....	10.1	9.0	0.42	.....	0.06	0.013	.....	89.1	4.2	.....	0.6	0.13	.....
2.....	8.2	7.0	.35	0.51	.....	.013	.....	85.4	4.3	6.2	.....	.13	.....
3.....	10.0	8.7	.42	.80	.04	.013	0.03	87.0	4.2	8.0	.4	.13	0.3
4.....	10.0	8.7	.43	.66	.09	.013	.11	87.0	4.3	6.6	.9	.13	1.1
5.....	9.8	.....	.44	.70	.07	.013	.....	.....	4.5	7.1	.7	.13	.....
6.....	10.2	8.6	.48	.64	.04	.013	.43	84.3	4.7	6.3	.4	.13	4.2
7.....	10.0	8.5	.55	.61	.15	.013	.18	85.0	5.5	6.1	1.5	.13	1.8
8.....	9.4	7.8	.41	.66	.08	.012	.44	83.0	4.4	7.0	.9	.12	4.7
9.....	9.4	8.0	.34	.65	.08	.012	.32	85.1	3.6	6.9	.9	.12	3.4
10.....	8.9	7.5	.34	.68	.06	.012	.31	84.3	3.8	7.6	.7	.12	3.5
11.....	9.3	7.5	.56	.68	.....	.012	.....	80.7	6.0	7.3	.....	.12	.....
12.....	10.1	8.4	.57	.65	.07	.012	.40	83.2	5.6	6.4	.7	.12	4.0
13.....	12.3	10.6	.36	.73	.11	.012	.49	86.2	2.9	5.9	.9	.12	4.0

PERIOD OF COPPER IN PEAS, ETC.

Mar. 22 ¹	0.0167	12.5	10.4	0.77	0.75	0.21	0.014	0.36	83.2	6.2	6.0	1.7	0.13	2.9
23.....	.0167	11.9	9.7	.71	.68	.19	.014	.61	81.5	6.0	5.7	1.6	.13	5.1
24.....	.0167	9.8	8.3	.51	.67	.18	.014	.13	84.7	5.2	6.8	1.8	.13	1.3
25.....	.0167	9.7	8.0	.70	.67	.19	.014	.13	82.5	7.2	6.9	2.0	.13	1.3

¹ Sick, Mar. 14-21.

CHART VIII.—*Distribution of nitrogen in urine—Continued.*

SUBJECT No. 6—Continued.

PERIOD OF COPPER IN PEAS, ETC.—Continued.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
Mar. 26.....	Gm. 0.0167	Gms. 10.1	Gms. 8.6	Gm. 0.54	Gm. 0.68	Gm. 0.18	Gm. 0.014	Gm. 0.09	P. ct. 85.2	P. ct. 5.4	P. ct. 6.7	P. ct. 1.8	P. ct. 0.13	P. ct. 0.9
27.....	.0167	11.5	9.8	.54	.68	.21	.014	.26	85.2	4.7	5.9	1.8	.13	2.3
28.....	.0167	11.7	10.0	.52	.60	.21	.014	.36	85.5	4.5	5.1	1.8	.13	3.1
29.....	.0167	10.8	9.0	.63	.69	.20	.014	.27	83.3	5.8	6.4	1.9	.14	2.5
30.....	.0167	10.6	9.1	.63	.63	.22	.014	.21	85.8	4.1	5.9	2.1	.14	2.0
Apr. 1.....	.0167	9.5	7.7	.48	.63	.17	.014	.51	81.1	5.1	6.6	1.8	.14	5.4
2.....	.0167	9.0	7.4	.44	.66	.14	.014	.35	82.2	4.9	7.3	1.6	.14	3.9
3.....	.0167	8.8	7.2	.44	.66	.16	.014	.33	81.8	5.0	7.5	1.8	.14	3.8
4.....	.0167	9.4	7.5	.54	.65	.17	.014	.53	79.8	5.7	6.9	1.8	.14	5.6
5.....	.0164	8.4	6.8	.41	.61	.16	.013	.41	81.0	4.9	7.3	1.9	.14	4.9
6.....	.0164	9.4	7.6	.46	.72	.20	.013	.41	80.9	4.9	7.7	2.1	.14	4.4
7.....	.0164	8.5	6.7	.53	.64	.18	.013	.44	78.8	6.2	7.5	2.1	.14	5.2
8.....	.0164	11.6	9.6	.70	.61	.20	.013	.48	82.8	6.0	5.3	1.7	.14	4.1
9.....	.0164	9.8	8.1	.46	.71	.19	.013	.33	82.7	4.2	7.3	1.9	.14	3.4
10.....	.0164	9.6	7.7	.57	.75	.21	.013	.36	80.2	5.9	7.8	2.2	.14	3.8
11.....	.0164	9.1	7.4	.58	.65	.17	.013	.29	81.3	6.4	7.1	1.9	.14	3.2
12.....	.0164	9.2	7.4	.46	.67	.20	.010	.46	80.4	5.0	7.3	2.2	.09	5.0
13.....	.0164	9.6	7.9	.48	.64	.19	.010	.38	82.3	5.0	6.7	2.0	.09	4.0
14.....	.0164	9.9	8.2	.46	.70	.18	.010	.35	82.8	4.7	7.1	1.8	.09	3.5
15.....	.0164	10.6	8.9	.54	.68	.18	.010	.29	84.0	5.1	6.4	1.7	.09	2.7
16.....	.0164	11.6	9.7	.54	.71	.17	.010	.47	83.6	4.7	6.1	1.5	.09	4.1
17.....	.0164	11.5	9.6	.56	.65	.18	.010	.50	83.5	4.9	5.7	1.6	.09	4.4
18.....	.0164	11.5	9.6	.56	.68	.19	.010	.46	83.5	4.9	5.9	1.7	.09	4.0
19.....	.0125	10.4	8.5	.56	.65	.17	.014	.51	81.7	5.4	6.3	1.6	.13	4.9
20.....	.0125	10.6	8.7	.60	.61	.18	.014	.50	82.1	5.7	5.8	1.7	.13	4.7
21.....	.0125	9.9	8.0	.60	.60	.17	.014	.52	80.8	6.1	6.1	1.7	.13	5.3
22.....	.0125	10.6	8.7	.72	.64	.19	.014	.34	82.1	6.8	6.0	1.8	.13	3.2
23.....	.0125	11.1	9.4	.51	.61	.21	.014	.36	84.7	4.6	5.5	1.9	.13	3.2
24.....	.0125	11.2	9.1	.68	.64	.23	.014	.54	81.3	6.1	5.7	2.1	.13	4.8
25.....	.0125	10.2	8.2	.68	.68	.23	.014	.40	80.4	6.7	6.7	2.3	.13	3.9
26.....	.0125	9.6	7.6	.58	.65	.18	.011	.58	79.2	6.0	6.8	1.9	.11	6.0
27.....	.0125	10.1	8.3	.45	.60	.19	.011	.55	82.2	4.5	5.9	1.9	.11	5.4
28.....	.0125	9.6	7.8	.55	.65	.18	.011	.41	81.3	5.7	6.8	1.9	.11	4.3
29.....	.0125	9.7	7.8	.57	.66	.18	.011	.48	80.4	5.9	6.8	1.9	.11	5.0
May 30.....	.0125	10.3	8.4	.46	.61	.20	.011	.62	81.6	4.5	5.9	1.9	.11	6.0
1.....	.0125	10.8	8.8	.68	.58	.16	.011	.57	81.5	6.3	5.4	1.5	.11	5.3
2.....	.0125	11.8	9.8	.62	.57	.20	.011	.60	83.0	5.3	4.8	1.7	.11	5.1
3.....	.0196	10.5	8.4	.67	.64	.18	.012	.60	80.0	6.4	6.1	1.7	.12	5.7
4.....	.0196	10.5	8.6	.56	.59	.18	.012	.56	81.9	5.3	5.6	1.7	.12	5.3
5.....	.0196	9.6	7.6	.56	.65	.16	.012	.62	79.2	5.8	6.8	1.7	.12	6.5
6.....	.0196	9.5	7.6	.62	.71	.17	.012	.39	80.0	6.5	7.5	1.8	.12	4.1
7.....	.0196	10.0	8.3	.44	.64	.15	.012	.46	83.0	4.4	6.4	1.5	.12	4.6
8.....	.0196	11.4	9.2	.60	.69	.22	.012	.68	80.7	5.3	6.1	1.9	.12	6.0
9.....	.0196	10.8	8.9	.64	.63	.16	.012	.46	82.4	5.9	5.8	1.5	.12	4.3
10.....	.0196	9.2	7.2	.50	.66	.16	.012	.67	78.3	5.4	7.2	1.7	.12	7.3
11.....	.0196	8.2	6.5	.48	.70	.20	.012	.31	79.3	5.9	8.5	2.4	.12	3.8
12.....	.0196	10.0	8.0	.52	.75	.17	.012	.55	80.0	5.2	7.5	1.7	.12	5.5
13.....	.0196	10.0	8.0	.48	.71	.19	.012	.61	80.0	4.8	7.1	1.9	.12	6.1
14.....	.0196	11.1	9.2	.52	.71	.18	.012	.48	82.9	4.7	6.4	1.6	.12	4.3
15.....	.0196	11.2	9.3	.71	.65	.16	.012	.37	83.0	6.3	5.8	1.4	.12	3.3
16.....	.0196	11.4	9.3	.58	.73	.20	.012	.58	81.6	5.1	6.4	1.8	.12	5.1

AFTER PERIOD.

May 17.....	9.6	7.7	0.63	0.68	0.18	0.010	0.40	80.2	6.6	7.1	1.9	0.10	4.2
18.....	9.7	7.7	.57	.69	.19	.010	.54	79.4	7.1	5.9	2.0	.10	5.6
19.....	10.0	8.1	.64	.70	.17	.010	.38	81.0	6.4	7.0	1.7	.10	3.8
20.....	9.5	7.7	.68	.68	.18	.010	.41	81.1	5.5	7.2	1.9	.10	4.3
21.....	9.9	8.0	.52	.70	.20	.010	.47	80.8	5.3	7.1	2.0	.10	4.8
22.....	9.6	7.6	.60	.63	.17	.010	.59	79.2	6.3	6.6	1.8	.10	6.2
23.....	9.7	7.8	.62	.68	.18	.010	.51	80.4	5.4	7.0	1.9	.10	5.3
24.....	10.1	8.1	.59	.62	.17	.012	.61	80.2	5.8	6.1	1.7	.11	6.0
25.....	10.6	8.5	.68	.65	.19	.012	.57	80.2	6.4	6.1	1.8	.11	5.4
26.....	12.6	10.5	.61	.60	.21	.012	.67	83.3	4.8	4.8	1.7	.11	5.3
27.....	11.5	9.4	.68	.67	.13	.012	.61	81.7	5.9	6.8	1.1	.11	5.3
28.....	11.5	9.5	.63	.64	.14	.012	.58	82.6	5.5	5.6	1.2	.11	5.0
29.....	10.8	9.0	.54	.60	.18	.012	.48	83.3	5.0	5.6	1.7	.11	4.4
30.....	10.2	8.3	.55	.65	.17	.012	.52	81.4	5.4	6.4	1.7	.11	5.1

CHART VIII.—*Distribution of nitrogen in urine*—Continued.

SUBJECT No. 6—Continued.

SUMMARY: AVERAGES FOR PERIODS.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
Mar. 1-13.....		9.8	8.4	0.44	0.66	0.08	0.013	0.21	85.7	4.5	6.7	0.8	0.13	2.1
Mar. 22-Apr. 4.....	0.0167	10.4	8.7	.55	.67	.19	.014	.28	83.7	5.3	6.4	1.8	.14	2.7
Apr. 5-18.....	.0164	10.0	8.2	.52	.67	.19	.012	.41	82.0	5.2	6.7	1.9	.12	4.1
Apr. 19-May 2.....	.0125	10.4	8.5	.59	.63	.19	.013	.48	81.7	5.7	6.1	1.8	.13	4.6
May 3-16.....	.0196	10.2	8.3	.56	.68	.18	.012	.47	81.4	5.5	6.7	1.8	.12	4.6
May 17-30.....		10.4	8.4	.59	.66	.18	.011	.55	80.8	5.7	6.4	1.7	.11	5.3

SUBJECT No. 7 (F. W.).

FORE PERIOD.

Mar. 1.....	10.2	9.2	0.19	.....	0.07	0.011	.....	90.2	1.9	.....	0.7	0.10	.....
2.....	10.5	9.0	.39	0.74	.....	.011	.....	85.7	3.7	7.1	.....	.10	.....
3.....	10.4	8.9	.32	.78	.06	.011	0.33	85.6	3.1	7.4	.6	.10	3.1
4.....	10.9	9.2	.52	.75	.06	.011	.36	84.4	4.8	6.9	.6	.10	3.3
5.....	10.5	.....	.52	.75	.07	.011	.....	.....	5.0	7.1	.7	.10	.....
6.....	10.9	9.3	.56	.70	.04	.011	.29	85.3	5.1	6.4	.4	.10	2.7
7.....	11.3	9.9	.48	.67	.04	.011	.20	87.6	4.3	5.9	.4	.10	1.8
8.....	11.4	9.6	.58	.69	.13	.012	.39	84.2	5.1	6.1	1.1	.10	3.4
9.....	12.3	10.2	.48	.68	.09	.012	.84	82.9	3.9	5.5	.7	.10	6.8
10.....	11.0	9.5	.44	.69	.....	.012	.....	86.4	4.0	6.3	.....	.10	.....
11.....	11.8	10.0	.58	.72	.06	.012	.43	84.7	4.9	6.1	.5	.10	3.6
12.....	11.2	9.6	.53	.70	.11	.012	.25	85.7	4.7	6.3	1.0	.10	2.2
13.....	11.6	9.9	.64	.73	.08	.012	.24	85.3	5.5	6.3	.7	.10	2.1
14.....	11.2	9.7	.46	.72	.05	.012	.26	86.6	4.1	6.4	.5	.10	2.3

PERIOD OF COPPER IN PEAS, ETC.

Mar. 15.....	0.0169	10.5	8.8	0.43	0.68	0.09	0.012	0.49	83.8	4.1	6.5	0.9	0.11	4.7
16.....	.0169	10.5	8.9	.52	.68	.14	.012	.25	84.8	5.0	6.5	1.3	.11	2.4
17.....	.0169	10.7	9.1	.60	.78	.18	.012	.03	85.1	5.6	7.3	1.7	.11	0.3
18.....	.0169	10.7	9.1	.59	.78	.13	.012	.09	85.1	5.5	7.3	1.2	.11	0.8
19.....	.0169	11.1	9.3	.56	.69	.17	.012	.37	83.8	5.0	6.2	1.5	.11	3.3
20.....	.0169	10.6	9.1	.47	.74	.16	.012	.12	85.8	4.4	7.0	1.5	.11	1.1
21.....	.0169	11.4	10.0	.50	.68	.15	.012	.06	87.7	4.4	6.0	1.3	.11	0.5
22.....	.0169	11.6	10.1	.47	.71	.16	.013	.15	87.1	4.1	6.1	1.4	.12	1.3
23.....	.0169	11.5	9.9	.48	.74	.16	.013	.21	86.1	4.2	6.4	1.4	.12	1.8
24.....	.0169	11.8	10.3	.44	.74	.19	.013	.12	87.3	3.7	6.3	1.6	.12	1.0
25.....	.0169	10.2	8.5	.68	.72	.14	.013	.15	83.3	6.7	7.1	1.4	.12	1.5
26.....	.0169	10.7	9.0	.52	.73	.15	.013	.29	84.1	4.9	6.8	1.4	.12	2.7
27.....	.0169	11.2	9.5	.48	.70	.16	.013	.35	84.8	4.3	6.3	1.4	.12	3.1
28.....	.0169	11.4	9.7	.58	.64	.15	.013	.32	85.1	5.1	5.6	1.3	.12	2.8
29.....	.0169	12.0	10.0	.60	.68	.16	.015	.55	83.3	5.0	5.7	1.3	.13	4.6
30.....	.0169	11.3	9.7	.47	.68	.17	.015	.27	85.8	4.2	6.0	1.5	.13	2.4
31.....	.0169	11.6	9.7	.58	.68	.16	.015	.47	83.6	5.0	5.9	1.4	.13	4.1
Apr. 1.....	.0169	11.3	9.6	.51	.69	.14	.015	.35	85.0	4.5	6.1	1.2	.13	3.1
2.....	.0169	11.7	10.1	.54	.73	.17	.015	.15	86.3	4.6	6.2	1.5	.13	1.3
3.....	.0169	11.9	10.3	.44	.68	.17	.015	.30	86.6	3.7	5.7	1.4	.13	2.5
4.....	.0169	13.1	11.3	.51	.68	.17	.015	.43	86.3	3.9	5.2	1.3	.13	3.3
5.....	.0217	13.1	11.3	.50	.66	.17	.014	.46	86.3	3.8	5.0	1.3	.12	3.5
6.....	.0217	12.5	10.6	.56	.73	.19	.014	.41	84.8	4.5	5.8	1.5	.12	3.3
7.....	.0217	11.7	10.1	.52	.65	.17	.014	.25	86.3	4.4	5.6	1.5	.12	2.1
8.....	.0217	11.8	10.1	.57	.63	.15	.014	.34	85.6	4.8	5.3	1.3	.12	2.9
9.....	.0217	11.1	9.3	.74	.69	.16	.014	.20	83.8	6.7	6.2	1.4	.12	1.8
10.....	.0217	11.3	9.5	.57	.73	.11	.014	.38	84.1	5.0	6.5	1.0	.12	3.4
11.....	.0217	11.8	10.2	.52	.72	.17	.014	.18	86.4	4.4	6.1	1.4	.12	1.5
12.....	.0217	11.2	9.1	.62	.65	.16	.011	.66	81.3	5.5	5.8	1.4	.09	5.9
13.....	.0217	11.1	9.4	.52	.67	.19	.011	.31	84.7	4.7	6.0	1.7	.09	2.8
14.....	.0217	11.8	9.9	.59	.74	.18	.011	.38	83.9	5.0	6.3	1.5	.09	3.2
15.....	.0217	11.1	9.4	.52	.68	.16	.011	.33	84.7	4.7	6.1	1.4	.09	3.0
16.....	.0217	12.5	10.7	.48	.75	.18	.011	.38	85.6	3.8	6.0	1.4	.09	3.0
17.....	.0217	12.3	10.4	.60	.68	.18	.011	.43	84.6	4.9	5.5	1.5	.09	3.5
18.....	.0217	12.7	10.9	.62	.70	.18	.011	.29	85.8	4.9	5.5	1.4	.09	2.3
19.....	.0217	12.4	10.6	.58	.71	.18	.015	.32	85.5	4.7	5.7	1.5	.13	2.6
20.....	.0245	11.9	10.0	.51	.61	.20	.015	.57	84.0	4.3	5.1	1.7	.13	4.8
21.....	.0245	11.6	9.9	.50	.65	.16	.015	.38	85.3	4.3	5.6	1.4	.13	3.3
22.....	.0245	12.2	10.3	.68	.69	.16	.015	.36	84.4	5.6	5.7	1.3	.13	3.0
23.....	.0245	11.8	9.8	.53	.65	.18	.015	.58	83.0	4.9	5.5	1.5	.13	4.9
24.....	.0245	11.3	9.4	.56	.63	.17	.015	.53	83.2	5.0	5.6	1.5	.13	4.7

CHART VIII.—*Distribution of nitrogen in urine*—Continued.

SUBJECT No. 7—Continued.

PERIOD OF COPPER IN PEAS, ETC.—Continued.

Date (1911).		Copper (daily average).	Per cent of total nitrogen.												
			Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
Apr.	25.....	Gm. 0.0245	Gms. 11.4	Gms. 9.5	Gm. 0.58	Gm. 0.69	Gm 0.19	Gm. 0.015	Gm. 0.43	P. ct. 83.3	P. ct. 5.1	P. ct. 6.1	P. ct. 1.7	P. ct. .13	P. ct. 3.8
	26.....	.0245	11.7	9.9	.62	.68	.18	.012	.31	84.6	5.3	5.8	1.5	.10	2.7
	27.....	.0245	10.9	9.1	.48	.60	.18	.012	.53	83.5	4.4	5.5	1.7	.10	4.9
	28.....	.0245	11.9	10.0	.51	.68	.17	.012	.53	84.0	4.3	5.7	1.4	.10	4.5
	29.....	.0245	11.1	9.3	.56	.65	.18	.012	.40	83.8	5.0	5.9	1.6	.10	3.6
May	30.....	.0245	11.5	9.8	.55	.70	.19	.012	.25	85.2	4.8	6.1	1.7	.10	2.2
	1.....	.0245	11.6	9.7	.62	.61	.17	.012	.49	83.6	5.3	5.3	1.5	.10	4.2
	2.....	.0245	12.2	10.3	.57	.57	.18	.012	.56	84.4	4.7	4.7	1.5	.10	4.6
	3.....	.0344	11.1	9.4	.50	.65	.....	.....	.....	84.7	4.5	5.9	.....	.....	.....
	4.....	.0344	10.9	9.1	.52	.64	.20	.....	.43	83.5	4.8	5.9	1.8	.....	3.9
	5.....	.0344	11.2	9.4	.54	.68	.18	.....	.38	83.9	4.8	6.1	1.6	.....	3.4
	6.....	.0344	10.6	8.8	.62	.73	.16	.....	.28	83.0	5.9	6.9	1.5	.....	2.6
	7.....	.0344	9.8	8.2	.49	.63	.15	.....	.32	83.7	5.0	6.4	1.5	.....	3.3
	8.....	.0344	12.3	10.2	.59	.76	.15	.....	.59	82.9	4.8	6.2	1.2	.....	4.8
	9.....	.0344	11.5	9.7	.58	.66	.16	.....	.39	84.3	5.0	5.7	1.4	.....	3.4
	10.....	.0344	10.3	8.7	.52	.64	.17	.010	.26	84.5	5.1	6.2	1.7	.09	2.5
	11.....	.0344	10.3	8.5	.54	.71	.17	.010	.37	82.5	5.2	6.9	1.7	.09	3.6
12.....	.0344	10.7	8.9	.46	.72	.17	.010	.44	83.2	4.3	6.7	1.6	.09	4.1	
13.....	.0344	10.2	8.3	.46	.73	.18	.010	.52	81.4	4.5	7.2	1.8	.09	5.1	
14.....	.0344	10.6	8.9	.43	.73	.18	.010	.35	84.0	4.1	6.9	1.7	.09	3.3	
15.....	.0344	11.5	9.6	.60	.71	.18	.010	.40	83.5	5.2	6.2	1.6	.09	3.5	
16.....	.0344	11.0	9.2	.58	.73	.16	.010	.32	83.6	5.3	6.6	1.5	.09	2.9	

AFTER PERIOD.

May 17.....	.....	11.5	9.5	0.58	0.68	0.19	0.011	0.54	82.6	5.0	5.9	1.7	0.10	4.7
18.....	.....	10.8	8.8	.60	.65	.21	.011	.53	81.5	5.6	6.0	1.9	.10	4.9
19.....	.....	10.9	9.0	.52	.68	.21	.011	.48	82.6	4.8	6.2	1.9	.10	4.4
20.....	.....	11.1	9.4	.54	.68	.19	.011	.28	84.7	4.9	6.1	1.7	.10	2.5
21.....	.....	11.8	9.7	.57	.75	.19	.011	.58	82.2	4.8	6.4	1.6	.10	4.9
22.....	.....	10.6	8.6	.60	.60	.17	.011	.62	81.1	5.7	5.7	1.6	.10	5.9
23.....	.....	11.6	9.7	.57	.69	.17	.011	.46	83.6	4.9	6.0	1.5	.10	4.0
24.....	.....	12.3	10.4	.60	.62	.19	.012	.48	84.6	4.9	5.0	1.5	.10	3.9
25.....	.....	10.9	8.8	.59	.60	.19	.012	.71	80.7	5.4	5.5	1.7	.10	6.5
26.....	.....	11.5	9.6	.53	.60	.19	.012	.57	83.5	4.6	5.2	1.7	.10	5.0
27.....	.....	11.4	9.4	.72	.66	.12	.012	.49	82.4	6.3	5.8	1.1	.10	4.3
28.....	.....	12.0	9.9	.66	.63	.13	.012	.67	82.5	5.5	5.3	1.1	.10	5.6
29.....	.....	12.3	10.2	.58	.59	.21	.012	.71	82.9	4.7	4.8	1.7	.10	5.6
30.....	.....	10.4	8.7	.52	.63	.17	.012	.37	83.7	5.0	6.1	1.6	.10	3.6

SUMMARY: AVERAGES FOR PERIODS.

Mar. 1-14.....	.....	11.1	9.5	0.48	0.72	0.07	0.012	0.32	85.6	4.3	6.5	0.6	0.11	2.9
Mar. 15-Apr. 4.....	0.0169	11.3	9.6	.52	.71	.16	.013	.30	84.9	4.6	6.3	1.4	.12	2.7
Apr. 5-19.....	.0217	11.9	10.1	.57	.69	.17	.013	.36	84.9	4.8	5.8	1.4	.11	3.0
Apr. 20-May 2.....	.0245	11.6	9.8	.56	.65	.18	.014	.40	84.5	4.8	5.6	1.6	.12	3.5
May 3-16.....	.0344	10.9	9.1	.53	.69	.17	.010	.40	83.5	4.9	6.3	1.6	.09	3.7
May 17-30.....	.....	11.4	9.4	.58	.65	.18	.012	.58	82.5	5.1	5.7	1.6	.11	5.1

SUBJECT No. 8 (M. W.).

FORE PERIOD.

Mar. 1.....	.....	10.6	9.3	0.42	.....	0.09	0.011	.....	87.7	4.0	.....	0.8	0.10	.....
2.....	.....	11.1	9.7	.46	0.73	.04	.011	0.16	87.4	4.1	6.6	.4	.10	1.4
3.....	.....	11.1	9.7	.30	.72	.05	.011	.32	87.4	2.7	6.5	.5	.10	2.9
4.....	.....	10.1	8.8	.41	.60	.05	.011	.23	87.1	4.1	5.9	.5	.10	2.3
5.....	.....	11.0	.....	.49	.66	.07	.011	.....	.....	4.5	6.0	.6	.10	.....
6.....	.....	12.7	11.2	.50	.65	.....	.011	.....	88.2	3.9	5.1	.....	.10	.....
7.....	.....	11.2	9.9	.54	.57	.04	.011	.14	88.4	4.8	5.1	.4	.10	1.3
8.....	.....	11.6	10.0	.50	.66	.06	.012	.37	86.2	4.3	5.7	.5	.10	3.2
9.....	.....	10.9	9.6	.40	.58	.08	.012	.23	88.1	3.7	5.3	.7	.10	2.1
10.....	.....	11.5	9.9	.53	.62	.05	.012	.39	86.1	4.6	5.4	.4	.10	3.4
11.....	.....	10.8	9.1	.59	.61	.09	.012	.40	84.3	5.5	5.7	.8	.10	3.7
12.....	.....	12.0	10.3	.63	.63	.09	.012	.34	85.8	5.3	5.3	.8	.10	2.8
13.....	.....	12.5	10.8	.62	.70	.14	.012	.23	86.4	5.0	5.6	1.1	.10	1.8
14.....	.....	11.8	10.1	.57	.69	.13	.012	.30	85.6	4.8	5.9	1.1	.10	2.5

CHART VIII.—*Distribution of nitrogen in urine*—Continued.

SUBJECT No. 8—Continued.

PERIOD OF COPPER IN PEAS, ETC.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.							
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.		
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.		
Mar.	15.....	0.0169	11.5	9.7	0.56	0.68	0.14	0.009	0.41	84.3	4.9	5.9	1.2	0.08	3.6	
	16.....	.0169	10.7	9.2	.50	.60	.18	.009	.21	86.0	4.7	5.6	1.7	.08	2.0	
	17.....	.0169	11.4	10.1	.49	.68	.17	.009		88.6	4.3	6.0	1.5	.08	.....
	18.....	.0169	11.2	9.7	.54	.70	.17	.009	.08	86.6	4.8	6.3	1.5	.08	0.7	
	19.....	.0169	11.4	9.6	.58	.62	.15	.009	.44	84.2	5.1	5.4	1.3	.08	3.9	
	20.....	.0169	12.0	10.3	.58	.67	.18	.009	.26	85.8	4.8	5.6	1.5	.08	2.2	
	21.....	.0169	12.1	10.6	.56	.67	.15	.009	.11	87.6	4.6	5.5	1.2	.08	0.9	
	22.....	.0169	11.3	9.7	.50	.69	.16	.013	.24	85.8	4.4	6.1	1.4	.11	2.1	
	23.....	.0169	11.9	10.4	.49	.68	.20	.013	.12	87.4	4.1	5.7	1.7	.11	1.0	
	24.....	.0169	11.6	9.9	.49	.65	.17	.013	.38	85.4	4.2	5.6	1.5	.11	3.3	
	25.....	.0169	11.2	9.4	.58	.69	.15	.013	.37	83.9	5.2	6.2	1.3	.11	3.3	
	26.....	.0169	11.3	9.8	.51	.67	.16	.013	.15	86.7	4.5	5.9	1.4	.11	1.3	
	27.....	.0169	12.7	11.0	.55	.66	.17	.013	.31	86.6	4.3	5.2	1.3	.11	2.4	
	28.....	.0169	12.2	10.6	.52	.60	.18	.013	.29	86.9	4.3	4.9	1.5	.11	2.4	
	29.....	.0169	11.8	10.1	.56	.64	.16	.014	.33	85.6	4.8	5.4	1.4	.12	2.8	
	30.....	.0169	12.0	10.3	.47	.66	.20	.014	.36	85.8	3.9	5.5	1.7	.12	3.0	
	31.....	.0169	10.7	9.1	.50	.63	.16	.014	.30	85.0	4.7	5.9	1.5	.12	2.8	
	Apr.	1.....	.0169	13.3	11.3	.53	.65	.18	.014	.63	85.0	4.0	4.9	1.4	.12	4.7
		2.....	.0169	10.9	9.1	.58	.63	.15	.014	.43	83.5	5.3	5.8	1.4	.12	3.9
		3.....	.0169	13.5	11.8	.56	.67	.19	.014	.27	87.4	4.2	5.0	1.4	.12	2.0
		4.....	.0169	12.7	10.9	.59	.64	.17	.014	.39	85.8	4.7	5.0	1.3	.12	3.1
		5.....	.0217	12.0	10.1	.56	.66	.19	.014	.48	84.2	4.7	5.5	1.6	.12	4.0
		6.....	.0217	11.4	9.5	.58	.68	.19	.014	.44	83.3	5.1	6.0	1.7	.12	3.9
		7.....	.0217	11.7	10.0	.49	.63	.18	.014	.39	85.5	4.2	5.4	1.5	.12	3.3
		8.....	.0217	11.2	9.4	.57	.66	.16	.014	.40	83.9	5.1	5.9	1.4	.12	3.6
		9.....	.0217	11.2	9.5	.58	.68	.06	.014	.37	84.8	5.2	6.1	.5	.12	3.3
		10.....	.0217	11.3	9.6	.50	.67	.17	.014	.35	85.0	4.4	5.9	1.5	.12	3.1
		11.....	.0217	11.8	10.0	.63	.71	.17	.014	.28	84.8	5.3	6.0	1.4	.12	2.4
		12.....	.0217	12.6	10.5	.66	.65	.19	.013	.59	83.3	5.2	5.2	1.5	.11	4.7
		13.....	.0217	10.7	9.0	.49	.60	.18	.013	.42	84.1	4.6	5.6	1.7	.11	3.9
		14.....	.0217	11.5	9.9	.52	.67	.17	.013	.23	86.1	4.5	5.8	1.5	.11	2.0
15.....		.0217	13.6	11.7	.56	.65	.17	.013	.51	86.0	4.1	4.8	1.3	.11	3.8	
16.....		.0217	11.9	10.1	.53	.65	.18	.013	.43	84.9	4.5	5.5	1.5	.11	3.6	
17.....	.0217	12.1	10.3	.55	.62	.19	.013	.43	85.1	4.5	5.1	1.6	.11	3.6		
18.....	.0217	13.5	11.6	.58	.68	.21	.013	.42	85.9	4.3	5.0	1.6	.11	3.1		
19.....	.0217	13.4	11.6	.53	.66	.20	.010	.40	86.6	4.0	4.9	1.5	.08	3.0		
20.....	.0245	12.6	11.2	.54	.64	.22	.010	.....	88.9	4.3	5.1	1.8	.08	.....	
21.....	.0245	11.7	9.9	.55	.61	.18	.010	.45	84.6	4.7	5.2	1.5	.08	3.3		
22.....	.0245	13.0	11.1	.62	.65	.16	.010	.46	85.4	4.8	5.0	1.2	.08	3.5		
23.....	.0245	11.5	9.6	.62	.60	.17	.010	.50	83.5	5.4	5.2	1.5	.08	4.4		
24.....	.0245	12.5	10.4	.56	.66	.23	.010	.64	83.2	4.5	5.3	1.8	.08	5.1		
25.....	.0245	10.8	8.9	.63	.68	.17	.010	.41	82.4	5.8	6.3	1.6	.08	3.8		
26.....	.0245	13.1	11.1	.62	.68	.24	.012	.45	84.7	4.7	5.2	1.8	.10	3.4		
27.....	.0245	9.9	8.1	.56	.58	.17	.012	.48	81.8	5.7	5.9	1.7	.10	4.9		
28.....	.0245	11.5	9.7	.56	.63	.17	.012	.43	84.4	4.9	5.5	1.5	.10	3.7		
29.....	.0245	11.9	10.2	.52	.67	.20	.012	.30	85.7	4.4	5.6	1.7	.10	2.5		
30.....	.0245	11.2	9.3	.50	.68	.21	.012	.50	83.0	4.5	6.1	1.9	.10	4.5		
May	1.....	.0245	11.4	9.6	.52	.57	.17	.012	.53	84.2	4.6	5.0	1.5	.10	4.7	
	2.....	.0245	13.5	11.5	.60	.57	.21	.012	.61	85.2	4.4	4.2	1.6	.10	4.5	
	3.....	.0321	11.8	10.0	.54	.64	.19	.011	.42	84.8	4.6	5.4	1.6	.09	3.6	
	4.....	.0321	11.1	9.3	.53	.63	.19	.011	.44	83.8	4.8	5.7	1.7	.09	4.0	
	5.....	.0321	12.6	10.8	.50	.66	.23	.011	.40	85.7	4.0	5.2	1.8	.09	3.2	
	6.....	.0321	10.6	8.8	.58	.70	.17	.011	.34	83.0	5.5	6.6	1.6	.09	3.2	
	7.....	.0321	11.3	9.5	.47	.72	.17	.011	.43	84.1	4.2	6.4	1.5	.09	3.8	
	8.....	.0321	12.5	10.5	.59	.68	.20	.011	.52	84.0	4.7	5.4	1.6	.09	4.2	
	9.....	.0321	12.0	10.1	.56	.63	.19	.011	.51	84.2	4.7	5.3	1.6	.09	4.3	
	10.....	.0321	10.1	8.2	.52	.67	.18	.008	.52	81.2	5.2	6.6	1.8	.07	5.2	
	11.....	.0321	11.8	9.9	.50	.72	.18	.008	.49	83.9	4.2	6.1	1.5	.07	4.2	
	12.....	.0321	11.1	9.3	.58	.68	.23	.008	.30	83.8	5.2	6.1	2.1	.07	2.7	
	13.....	.0321	12.6	10.5	.65	.73	.21	.008	.50	83.3	5.2	5.8	1.7	.07	4.0	
	14.....	.0321	11.8	9.9	.46	.68	.20	.008	.55	83.9	3.9	5.8	1.7	.07	4.7	
	15.....	.0321	12.5	10.5	.57	.73	.20	.008	.49	84.0	4.6	5.8	1.6	.07	3.9	
	16.....	.0321	11.7	9.7	.62	.65	.17	.008	.55	82.9	5.3	5.6	1.5	.07	4.7	

CHART VIII.—*Distribution of nitrogen in urine—Continued.*

SUBJECT No. 8—Continued.

AFTER PERIOD.

Date (1911).	Copper (daily average).	Total nitrogen.	Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen (daily average).	Undetermined nitrogen.	Per cent of total nitrogen.					
									Urea nitrogen.	Ammonia nitrogen.	Creatinine nitrogen.	Uric acid nitrogen.	Purine nitrogen.	Undetermined nitrogen.
	Gm.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Gm.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
May 17.....	11.6	9.6	0.45	0.66	0.22	0.013	0.66	82.8	3.9	5.7	1.9	0.12	5.7	
18.....	11.4	9.3	.59	.68	.21	.013	.61	81.6	5.2	6.0	1.8	.12	5.4	
19.....	10.5	8.8	.50	.69	.19	.013	.31	83.8	4.8	6.6	1.8	.12	3.0	
20.....	10.4	8.6	.53	.69	.17	.013	.40	82.7	5.1	6.6	1.6	.12	3.9	
21.....	11.0	9.0	.55	.73	.20	.013	.51	81.8	5.0	6.6	1.8	.12	4.6	
22.....	10.7	8.9	.53	.61	.20	.013	.45	83.2	5.0	5.7	1.9	.12	4.2	
23.....	11.0	9.2	.59	.66	.18	.013	.36	83.6	5.4	6.0	1.6	.12	3.3	
24.....	6.1	5.2	.22	.33	.09	.014	.25	85.3	3.6	5.4	1.5	.13	4.1	
25.....	8.3	7.0	.30	.43	.16	.014	.40	84.3	3.6	5.2	1.9	.13	4.8	
26.....	12.0	10.1	.50	.56	.18	.014	.65	84.2	4.2	4.7	1.5	.13	5.4	
27.....	11.7	9.8	.60	.62	.14	.014	.53	83.8	5.1	5.3	1.2	.13	4.5	
28.....	12.3	10.3	.56	.68	.17	.014	.58	83.7	4.6	5.5	1.4	.13	4.7	
29.....	12.5	10.5	.62	.60	.27	.014	.50	84.0	5.0	4.8	2.2	.13	4.0	
30.....	11.9	9.8	.70	.65	.24	.014	.50	82.4	5.9	5.5	2.0	.13	4.2	

SUMMARY: AVERAGES FOR PERIODS.

Mar. 1-14.....	11.4	9.9	0.50	0.65	0.08	0.012	0.26	86.8	4.4	5.7	0.7	0.11	2.3	
Mar. 15-Apr. 4.....	0.0169	11.8	10.1	.54	.66	.17	.012	.32	85.6	4.6	5.6	1.4	.10	2.7
Apr. 5-19.....	.0217	12.0	10.2	.56	.66	.17	.014	.40	85.0	4.7	5.5	1.4	.12	3.3
Apr. 20-May 2.....	.0245	11.9	10.0	.57	.63	.19	.011	.50	84.0	4.8	5.3	1.6	.09	4.2
May 3-16.....	.0321	11.7	9.8	.55	.68	.19	.010	.47	83.8	4.7	4.8	1.6	.09	4.0
May 17-30.....		10.8	9.0	.52	.61	.19	.014	.47	83.3	4.8	5.7	1.8	.13	4.4

CHART IX.—*Daily balances.*

SUBJECT No. 1 (E. H. B.).

FORE PERIOD—UNCOLORED PEAS.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Gm.	Gm.	Kilos.
1	Mar. 1..	9.4	2.1	11.5	12.9	+ 1.4	0.54	0.40	0.94	1.15	+ 0.21	.....	.....	.....	61.4
2	2..	8.3	2.1	10.4	14.1	+ 3.7	.58	.40	.98	1.24	+ .26	.....	.....	.....	.....
3	3..	8.5	2.1	10.6	14.2	+ 3.6	.68	.40	1.08	1.36	+ .28	.....	.....	.....	.....
4	4..	8.3	2.1	10.4	14.1	+ 3.7	.63	.40	1.03	1.34	+ .31	.....	.....	.....	.....
5	5..	9.7	2.1	11.8	14.5	+ 2.7	.74	.40	1.14	1.30	+ .16	.....	.....	.....	.....
6	6..	9.5	2.1	11.6	14.5	+ 2.9	.64	.40	1.04	1.47	+ .43	.....	.....	.....	.....
7	7..	1.0	2.1	12.1	15.4	+ 3.3	.69	.40	1.09	1.34	+ .25	.....	.....	.....	.....
8	8..	9.7	2.1	11.8	14.6	+ 2.8	.78	.40	1.18	1.18	.....	.....	.....	.....	62.7
9	9..	10.2	2.1	12.3	14.4	+ 2.1	.72	.40	1.12	1.27	+ .15	.....	.....	.....	.....
10	10..	9.3	2.1	11.4	14.4	+ 3.0	.75	.40	1.15	1.34	+ .19	.....	.....	.....	.....
11	11..	8.5	2.1	10.6	14.4	+ 3.8	.58	.40	.98	1.19	+ .21	.....	.....	.....	.....
12	12..	9.7	2.1	11.8	14.0	+ 2.2	.67	.40	1.07	1.26	+ .19	.....	.....	.....	.....
13	13..	10.2	2.1	12.3	14.8	+ 2.5	.81	.40	1.21	1.51	+ .30	.....	.....	.....	.....
14	14..	11.4	2.1	13.5	15.4	+ 1.9	.66	.40	1.06	1.30	+ .24	.....	0.40	.....	.....
	Total....	132.7	29.4	162.1	201.7	+ 39.6	9.47	5.60	15.07	18.25	+ 3.18	.....	.40	.....	.....
	Average.	9.5	2.1	11.6	14.4	+ 2.8	.68	.40	1.08	1.30	+ .22	.....	.....	.....	.....

CHART IX.—Daily balances—Continued.

SUBJECT No. 1—Continued.

PERIOD OF COPPERED PEAS.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.		
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Gm.
15	Mar. 15..	11.5	1.5	13.0	14.5	+ 1.5	0.86	0.33	1.19	1.18	-0.01	0.0171	.....	.....
16	16..	12.0	1.5	13.5	14.9	+ 1.4	.99	.33	1.32	1.30	-.02	.0180	.....	.....
17	17..	10.8	1.5	12.3	14.3	+ 2.0	.81	.33	1.14	1.34	+.24	.0191	.....	.....
18	18..	9.8	1.5	11.3	14.0	+ 2.7	.70	.33	1.03	1.20	+.17	.0164	.....	.....
19	19..	9.7	1.5	11.2	14.9	+ 3.7	.70	.33	1.03	1.34	+.31	.0168	.....	.....
20	20..	10.0	1.5	11.5	15.5	+ 4.0	.61	.33	.94	1.45	+.51	.0165	.....	.....
21	21..	10.9	1.5	12.4	17.1	+ 4.7	.74	.33	1.07	1.41	+.04	.0179	.....	.....
22	22..	9.6	1.5	11.1	14.9	+ 3.8	.59	.33	.92	1.13	+.21	.0165	.....	63.2
23	23..	6.0	1.5	7.5	3.0	- 4.5	.27	.33	.60	.28	-.32	.....	0.080	.....
Total....		90.3	13.5	103.8	123.1	+19.3	6.27	2.97	9.24	10.67	+1.43	.138	.080	.....
Average.		10.0	1.5	11.5	13.7	+ 2.2	.70	.33	1.03	1.19	+.16	.....	.....	.....

PERIOD OF UNCOLORED PEAS.

Day of experiment.	Date (1911).	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Gm.
28	Mar. 28 ¹ .	11.3	1.3	12.6	13.2	+ 0.6	0.91	0.30	1.21	1.10	-0.11	.....	.....	62.1
29	29..	9.9	1.3	11.2	11.6	+.4	.73	.30	1.03	.92	-.11	.....	.....	.....
30	30..	9.5	1.3	10.8	11.5	+.7	.70	.30	1.00	1.06	+.06	.....	.....	.....
31	31..	10.1	1.3	11.4	11.6	+.2	.66	.30	.96	1.12	+.16	.....	.....	.....
32	Apr. 1..	10.7	1.3	12.0	12.7	+.7	.73	.30	1.03	1.00	-.03	.....	.....	.....
33	2..	9.4	1.3	10.7	12.4	+ 1.7	.72	.30	1.02	1.12	+.10	.....	.....	.....
34	3..	9.7	1.3	11.0	12.8	+ 1.8	.68	.30	.98	1.22	+.24	.....	.....	.....
35	4..	9.2	1.3	10.5	13.3	+ 2.8	.52	.30	.82	1.11	+.29	0.017	.....	.....
36	5..	10.0	1.6	11.6	11.5	-.1	.70	.34	1.04	.94	-.10	.....	.....	62.7
37	6..	7.8	1.6	9.4	12.0	+ 2.6	.55	.34	.89	1.05	+.16	.....	.....	.....
38	7..	7.9	1.6	9.5	12.2	+ 2.7	.59	.34	.93	1.15	+.22	.....	.....	.....
39	8..	9.4	1.6	11.0	13.1	+ 2.1	.66	.34	1.00	1.09	+.09	.....	.....	.....
40	9..	9.9	1.6	11.5	12.6	+ 1.1	.66	.34	1.00	1.16	+.16	.....	.....	.....
41	10..	9.7	1.6	11.3	12.5	+ 1.2	.74	.34	1.08	1.24	+.16	.....	.....	.....
42	11..	10.0	1.6	11.6	13.3	+ 1.7	.69	.34	1.03	1.14	+.11	.....	.....	.....
43	12..	9.6	1.6	11.2	11.4	+.2	.68	.34	1.02	.98	-.04	.....	.....	63.1
44	13..	9.0	1.6	10.6	12.3	+ 1.7	.65	.34	.99	1.08	+.09	.....	.....	.....
45	14..	9.1	1.6	10.7	11.7	+ 1.0	.71	.34	1.05	1.13	+.08	.....	.....	.....
46	15..	9.7	1.6	11.3	13.4	+ 2.1	.70	.34	1.04	1.10	+.06	.....	.....	.....
47	16..	9.7	1.6	11.3	12.6	+ 1.3	.79	.34	1.13	1.15	+.02	.....	.....	.....
48	17..	10.3	1.6	11.9	12.8	+.9	.79	.34	1.13	1.30	+.17	.....	.....	.....
49	18..	10.0	1.6	11.6	13.4	+ 1.8	.71	.34	1.05	1.14	+.09	.....	.....	.....
50	19..	9.8	1.6	11.4	11.1	-.3	.70	.34	1.04	.97	-.07	.018	.....	63.0
51	20..	9.0	1.5	10.5	11.5	+ 1.0	.71	.33	1.04	1.09	+.05	.....	.....	.....
52	21..	9.5	1.5	11.0	11.3	+.3	.73	.33	1.06	1.14	+.08	.....	.....	.....
53	22..	10.5	1.5	12.0	11.5	-.5	.74	.33	1.07	1.01	-.06	.....	.....	.....
54	23..	9.4	1.5	10.9	11.4	+.5	.68	.33	1.01	1.06	+.05	.....	.....	.....
55	24..	8.8	1.5	10.3	11.7	+ 1.4	.75	.33	1.08	1.25	+.17	.....	.....	.....
56	25..	9.1	1.5	10.6	12.7	+ 2.1	.78	.33	1.11	1.13	+.02	.....	.....	.....
57	26..	9.4	1.5	10.9	11.4	+.5	.73	.33	1.06	1.01	-.05	.....	.....	62.7
58	27..	9.9	1.5	11.4	11.8	+.4	.83	.33	1.06	1.11	+.05	.....	.....	.....
59	28..	9.5	1.5	11.0	11.8	+.8	.78	.33	1.11	1.12	+.01	.....	.....	.....
60	29..	9.3	1.5	10.8	11.7	+.9	.78	.33	1.11	1.04	-.07	.....	.....	.....
61	30..	9.2	1.5	10.7	11.7	+ 1.0	.66	.33	.99	1.08	+.09	.....	.....	.....
62	1..	9.2	1.5	10.7	13.2	+ 2.5	.71	.33	1.04	1.28	+.24	.....	.....	.....
63	2..	9.9	1.5	11.4	12.4	+ 1.0	.62	.33	.95	1.13	+.18	.037	.....	.....
64	3..	9.9	1.6	11.5	11.4	-.1	.73	.32	1.05	1.01	-.04	.....	.....	63.0
65	4..	9.2	1.6	10.8	11.6	+.8	.68	.32	1.00	1.11	+.11	.....	.....	.....
66	5..	9.1	1.6	10.7	12.0	+ 1.3	.66	.32	.98	1.12	+.14	.....	.....	.....
67	6..	8.6	1.6	10.2	11.9	+ 1.7	.71	.32	1.03	1.09	+.06	.....	.....	.....
68	7..	9.9	1.6	11.5	12.4	+.9	.66	.32	.98	1.14	+.16	.....	.....	.....
69	8..	10.3	1.6	11.9	12.7	+.8	.84	.32	1.16	1.31	+.15	.....	.....	.....
70	9..	9.6	1.6	11.2	12.4	+ 1.2	.67	.32	.99	1.12	+.13	.....	.....	.....
71	10..	8.2	1.6	9.8	11.2	+ 1.4	.69	.32	1.01	1.01	.....	.....	.....	62.7
72	11..	7.9	1.6	9.5	12.0	+ 2.5	.77	.32	1.09	1.10	+.01	.....	.....	.....
73	12..	8.7	1.6	10.3	11.9	+ 1.6	.77	.32	1.09	1.16	+.07	.....	.....	.....
74	13..	7.5	1.6	9.1	11.8	+ 2.7	.65	.32	.97	1.07	+.10	.....	.....	.....
75	14..	8.6	1.6	10.2	12.2	+ 2.0	.64	.32	.96	1.17	+.21	.....	.....	.....
76	15..	9.0	1.6	10.6	12.6	+ 2.0	.77	.32	1.09	1.28	+.19	.....	.....	.....
77	16..	8.1	1.6	9.7	11.9	+ 2.2	.67	.32	.99	1.08	+.09	.....	.035	.....
Total....		469.0	76.3	545.3	607.1	+61.8	35.38	16.27	51.65	55.49	+3.84	.....	.107	.....
Average.		9.4	1.5	10.9	12.1	+ 1.2	.71	.32	1.03	1.11	+.08	.....	.....	.....

¹ Sick Mar. 24-27; off squad.

CHART IX.—Daily balances—Continued.

SUBJECT No. 1—Continued.

PERIOD OF COPPER SULPHATE.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Gm.	Gm.	Kilos.
78	May 17..	9.7	1.7	11.4	11.6	+ 0.2	0.73	0.35	1.08	1.14	+0.06	0.0314	.....	.....	63.0
79	18..	9.7	1.7	11.4	12.5	+ 1.1	.74	.35	1.09	1.24	+ .15	.0314	.....	.....	.....
80	19..	9.8	1.7	11.5	11.8	+ .3	.79	.35	1.14	1.26	+ .12	.0314	.....	.....	.....
81	20..	8.9	1.7	10.6	12.0	+ 1.4	.68	.35	1.03	1.26	+ .23	.0314	.....	.....	.....
82	21..	8.9	1.7	10.6	12.9	+ 2.3	.70	.35	1.05	1.30	+ .25	.0314	.....	.....	.....
83	22..	11.2	1.7	12.9	12.2	- .7	.90	.35	1.25	1.27	+ .02	.....	.....	.....	.....
84	23..	10.9	1.7	12.6	12.8	+ .2	1.00	.35	1.35	1.21	- .14	.....	0.090	.....	.....
Total....		69.1	11.9	81.0	85.8	+ 4.8	5.54	2.45	7.99	8.68	+ .69	.157	.090	.....	.....
Average.		9.9	1.7	11.6	12.3	+ .7	.79	.35	1.14	1.24	+ .10	.....	.....	.....	.....

AFTER PERIOD—UNCOLORED PEAS.

85	May 24..	11.3	1.5	12.8	11.9	- 0.9	0.90	0.31	1.21	1.14	-0.07	.....	.....	.....	62.3
86	25..	9.5	1.5	11.0	12.8	+ 1.8	.83	.31	1.14	1.24	+ .10	.....	.....	.....	.....
87	26..	8.7	1.5	10.2	12.3	+ 2.1	.62	.31	.93	1.19	+ .26	.....	.....	.....	.....
88	27..	8.7	1.5	10.2	12.5	+ 2.3	.76	.31	1.07	1.20	+ .13	.....	.....	.....	.....
89	28..	9.0	1.5	10.5	12.2	+ 1.7	.72	.31	1.03	1.19	+ .16	.....	.....	.....	.....
90	29..	11.4	1.5	12.9	13.3	+ .4	.89	.31	1.20	1.38	+ .18	.....	.....	.....	.....
91	30..	9.2	1.5	10.7	12.2	+ 1.5	.77	.31	1.08	1.16	+ .08	.....	0.014	.....	162.1
Total....		67.8	10.5	78.3	87.2	+ 8.9	5.49	2.17	7.66	8.50	+ .84	.....	.....	.....	.....
Average.		9.7	1.5	11.2	12.5	+ 1.3	.78	.31	1.09	1.21	+ .12	.....	.....	.....	.....
Grand total.		828.9	141.6	970.5	1104.9	134.4	62.15	29.46	91.61	101.59	+9.98	0.295	.331	.036	.....
Average.		9.5	1.6	11.1	12.7	+ 1.6	.71	.34	1.05	1.17	+ .12	.....	.....	.....	.....

SUBJECT No. 2 (M. R. B.).

FORE PERIOD—UNCOLORED PEAS.

1	Mar. 1..	10.1	1.9	12.0	12.4	+ 0.4	0.74	0.42	1.16	1.25	+0.09	.....	.....	.....	59.8
2	2..	10.0	1.9	11.9	13.9	+ 2.0	.75	.42	1.17	1.29	+ .12	.....	.....	.....	.....
3	3..	8.4	1.9	10.3	13.5	+ 3.2	.58	.42	1.00	1.33	+ .33	.....	.....	.....	.....
4	4..	11.7	1.9	13.6	14.0	+ .4	1.01	.42	1.43	1.37	- .06	.....	.....	.....	.....
5	5..	11.3	1.9	13.2	14.3	+ 1.1	.86	.42	1.28	1.37	+ .09	.....	.....	.....	.....
6	6..	12.0	1.9	13.9	14.9	+ 1.0	.93	.42	1.35	1.62	+ .27	.....	.....	.....	.....
7	7..	10.6	1.9	12.5	15.5	+ 3.0	.87	.42	1.29	1.44	+ .15	.....	.....	.....	.....
8	8..	8.2	1.9	10.1	13.6	+ 3.5	.52	.42	.94	1.17	+ .23	.....	.....	.....	60.0
9	9..	13.5	1.9	15.4	14.0	- 1.4	1.11	.42	1.53	1.31	- .22	.....	.....	.....	.....
10	10..	10.1	1.9	12.0	13.9	+ 1.9	.76	.42	1.18	1.37	+ .19	.....	.....	.....	.....
11	11..	11.0	1.9	12.9	14.4	+ 1.5	.83	.42	1.25	1.27	+ .02	.....	.....	.....	.....
12	12..	11.0	1.9	12.9	13.5	+ .6	.80	.42	1.22	1.27	+ .05	.....	.....	.....	.....
13	13..	11.4	1.9	13.3	15.1	+ 1.8	.87	.42	1.29	1.67	+ .38	.....	.....	.....	.....
14	14..	10.9	1.9	12.8	16.0	+ 3.2	.85	.42	1.27	1.47	+ .20	.....	0.037	.....	.....
Total....		150.2	26.6	176.8	199.0	+22.2	11.48	5.88	17.36	19.20	+1.84	.....	.037	.....	.....
Average.		10.7	1.9	12.6	14.2	+ 1.6	.82	.42	1.24	1.37	+ .13	.....	.....	.....	.....

PERIOD OF COPPERED PEAS.

15	Mar. 15..	11.3	1.6	12.9	13.5	+ 0.6	0.76	0.37	1.13	1.20	+0.07	0.0171	.....	.....	60.7
16	16..	10.7	1.6	12.3	14.2	+ 1.9	.71	.37	1.08	1.31	+ .23	.0180	.....	.....	.....
17	17..	11.3	1.6	12.9	13.8	+ .9	.81	.37	1.18	1.39	+ .21	.0191	.....	.....	.....
18	18..	10.8	1.6	12.4	13.9	+ 1.5	.80	.37	1.17	1.26	+ .09	.0164	.....	.....	.....
19	19..	10.4	1.6	12.0	14.9	+ 2.9	.70	.37	1.07	1.39	+ .32	.0168	.....	.....	.....
20	20..	11.3	1.6	12.9	16.0	+ 3.1	.88	.37	1.25	1.65	+ .40	.0165	.....	.....	.....
21	21..	11.7	1.6	13.3	17.3	+ 4.0	.90	.37	1.27	1.52	+ .25	.0179	.....	.....	.....

May 31.

CHART IX.—Daily balances—Continued.

SUBJECT No. 2—Continued.

PERIOD OF COPPERED PEAS—Continued.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balance.	Of urine.	Of feces.	Total output.	Total input.	Daily balance.	Input.	Output (feces).	Balance.	
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Kilos.
22	Mar. 22..	11.8	1.6	13.4	14.0	+ 0.6	0.77	0.37	1.14	1.14	0.00	0.0165	0.0147	.....	59.8
23	23..	11.4	1.6	13.0	14.6	+ 1.6	.76	.37	1.13	1.32	+ 0.19	.....	.....	.....	.....
24	24..	11.4	1.6	13.0	14.4	+ 1.4	.86	.37	1.23	1.36	+ .13	.....	.....	.....	.....
25	25..	11.4	1.6	13.0	14.4	+ 1.4	.90	.37	1.27	1.24	-.03	.....	.....	.....	.....
26	26..	12.3	1.6	13.9	14.2	+ .3	.74	.37	1.11	1.31	+ .20	.....	.....	.....	.....
27	27..	10.8	1.6	12.4	15.4	+ 3.0	.79	.37	1.16	1.57	+ .41	.....	.....	.....	.....
28	28..	11.7	1.6	13.3	16.8	+ 3.5	.81	.37	1.18	1.48	+ .30	.....	.....	.....	.....
29	29..	11.2	1.6	12.8	13.9	+ 1.1	.75	.37	1.12	1.16	+ .04	.....	.....	.....	59.5
30	30..	10.9	1.6	12.5	13.9	+ 1.4	.61	.37	.98	1.33	+ .35	.....	.....	.....	.....
31	31..	10.9	1.6	12.5	13.9	+ 1.4	.72	.37	1.09	1.38	+ .29	.....	.....	.....	.....
32	Apr. 1..	10.9	1.6	12.5	14.0	+ 1.5	.56	.37	.93	1.20	+ .27	.....	.....	.....	.....
33	2..	9.6	1.6	11.2	14.3	+ 3.1	.57	.37	.94	1.37	+ .43	.....	.....	.....	.....
34	3..	6.6	1.6	8.2	15.9	+ 7.7	.38	.37	.75	1.59	+ .84	.....	.....	.....	.....
35	4..	17.2	1.6	18.8	17.2	- 1.6	1.56	.37	1.93	1.51	-.42	.....	0.310	.....	.....
36	5..	10.4	1.6	12.0	13.5	+ 1.5	.55	.35	.90	1.16	+ .26	.....	.....	.....	61.6
37	6..	10.6	1.6	12.2	13.8	+ 1.6	.68	.35	1.03	1.24	+ .21	.....	.....	.....	.....
38	7..	10.0	1.6	11.6	14.0	+ 2.4	.65	.35	1.00	1.38	+ .38	.....	.....	.....	.....
39	8..	10.5	1.6	12.1	14.1	+ 2.0	.76	.35	1.11	1.24	+ .13	.....	.....	.....	.....
40	9..	7.7	1.6	9.3	14.0	+ 4.7	.49	.35	.84	1.35	+ .51	.....	.....	.....	.....
41	10..	7.4	1.6	9.0	15.1	+ 6.1	.32	.35	.67	1.54	+ .87	.....	.....	.....	.....
42	11..	12.2	1.6	13.8	16.5	+ 2.7	1.17	.35	1.52	1.47	-.05	.....	.....	.....	.....
43	12..	10.3	1.6	11.9	13.2	+ 1.3	.77	.35	1.12	1.17	+ .05	.....	.....	.....	62.1
44	13..	8.8	1.6	10.4	14.3	+ 3.9	.63	.35	.98	1.29	+ .31	.....	.....	.....	.....
45	14..	9.7	1.6	11.3	13.7	+ 2.4	.79	.35	1.14	1.36	+ .22	.....	.....	.....	.....
46	15..	10.9	1.6	12.5	14.3	+ 1.8	.77	.35	1.12	1.26	+ .14	.....	.....	.....	.....
47	16..	10.7	1.6	12.3	13.8	+ 1.5	.65	.35	1.00	1.33	+ .33	.....	.....	.....	.....
48	17..	11.1	1.6	12.7	15.5	+ 2.8	.83	.35	1.18	1.61	+ .43	.....	.....	.....	.....
49	18..	11.1	1.6	12.7	16.7	+ 4.0	.73	.35	1.08	1.51	+ .43	.....	.....	.....	.....
50	19..	12.0	2.1	14.1	13.5	- .8	.87	.48	1.35	1.22	-.13	.....	.....	.....	62.1
51	20..	11.1	2.1	13.2	13.5	+ .3	.94	.48	1.42	1.33	-.09	.....	.....	.....	.....
52	21..	11.4	2.1	13.5	13.5	.0	.85	.48	1.33	1.37	+ .04	.....	.....	.....	.....
53	22..	10.2	2.1	12.3	14.1	+ 1.8	.74	.48	1.22	1.26	+ .04	.....	.....	.....	.....
54	23..	10.7	2.1	12.8	13.8	+ 1.0	.63	.48	1.11	1.31	+ .20	.....	.....	.....	.....
55	24..	10.9	2.1	13.0	14.9	+ 1.9	.91	.48	1.39	1.59	+ .20	.....	.....	.....	.....
56	25..	11.7	2.1	13.8	16.4	+ 2.6	.73	.48	1.21	1.52	+ .31	.....	.....	.....	.....
57	26..	10.3	2.1	12.4	13.3	+ .9	.85	.48	1.33	1.20	-.13	.....	.....	.....	62.6
58	27..	11.2	2.1	13.3	14.0	+ .7	.94	.48	1.42	1.33	-.09	.....	.....	.....	.....
59	28..	11.0	2.1	13.1	14.4	+ 1.3	.80	.48	1.28	1.39	+ .11	.....	.....	.....	.....
60	29..	9.6	2.1	11.7	14.2	+ 2.5	.80	.48	1.28	1.24	-.04	.....	.....	.....	.....
61	30..	11.9	2.1	14.0	14.3	+ .3	.83	.48	1.31	1.34	+ .03	.....	.....	.....	.....
62	May 1..	10.5	2.1	12.6	15.6	+ 3.0	.94	.48	1.42	1.63	+ .21	.....	.....	.....	.....
63	2..	(1)	2.1	.....	16.1	.....	(1)	.48	.....	1.50	.....	.....	.....	187	.....
64	3..	11.1	1.9	13.0	13.6	+ .6	.77	.37	1.14	1.20	+ .06	.....	.....	.....	62.1
65	4..	10.6	1.9	12.5	13.8	+ 1.3	.77	.37	1.14	1.26	+ .12	.....	.....	.....	.....
66	5..	10.5	1.9	12.4	14.1	+ 1.7	.86	.37	1.23	1.30	+ .07	.....	.....	.....	.....
67	6..	11.5	1.9	13.4	14.4	+ 1.0	.91	.37	1.28	1.27	-.01	.....	.....	.....	.....
68	7..	12.3	1.9	14.2	15.0	+ .8	.71	.37	1.08	1.34	+ .26	.....	.....	.....	.....
69	8..	12.1	1.9	14.0	15.8	+ 1.8	.98	.37	1.35	1.62	+ .27	.....	.....	.....	.....
70	9..	11.2	1.9	13.1	13.5	+ .4	.75	.37	1.12	1.18	+ .06	.....	.....	.....	.....
71	10..	10.7	1.9	12.6	13.1	+ .5	.88	.37	1.25	1.16	-.09	.....	.....	.....	62.1
72	11..	10.9	1.9	12.8	14.4	+ 1.6	.89	.37	1.26	1.30	+ .04	.....	.....	.....	.....
73	12..	10.8	1.9	12.7	14.1	+ 1.4	.83	.37	1.20	1.31	+ .11	.....	.....	.....	.....
74	13..	10.6	1.9	12.5	14.0	+ 1.5	.76	.37	1.13	1.27	+ .14	.....	.....	.....	.....
75	14..	11.6	1.9	13.5	14.7	+ 1.2	.79	.37	1.16	1.35	+ .19	.....	.....	.....	.....
76	15..	10.8	1.9	12.7	16.0	+ 3.3	.84	.37	1.21	1.60	+ .39	.....	.....	.....	.....
77	16..	12.0	1.9	13.9	14.2	+ .3	.96	.37	1.33	1.25	-.08	.....	.....	.....	.....
Total....		676.2	109.9	786.1	899.0	+112.9	48.66	24.09	72.75	83.73	+10.98	1.034	1.011	.....	.....
Average.		10.9	1.8	12.7	14.5	+1.8	.78	.39	1.17	1.35	+ .18	.....	.....	.....	.....

¹ This day omitted from average; urine lost.

CHART IX.—*Daily balances*—Continued.

SUBJECT No. 2—Continued.

AFTER PERIOD—UNCOLORED PEAS.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Kilos.
78	May 17..	10.1	1.6	11.7	12.7	+ 1.0	0.74	0.30	1.04	1.17	+ 0.13	.....	.....	.....	61.7
79	18..	11.6	1.6	13.2	13.8	+ .6	.85	.30	1.15	1.23	+ .08	.....	.....	.....	.....
80	19..	9.4	1.6	11.0	12.9	+ 1.9	.87	.30	1.17	1.26	+ .09	.....	.....	.....	.....
81	20..	10.6	1.6	12.2	13.4	+ 1.2	.73	.30	1.03	1.27	+ .24	.....	.....	.....	.....
82	21..	11.2	1.6	12.8	14.3	+ 1.5	.83	.30	1.13	1.33	+ .20	.....	.....	.....	.....
83	22..	11.4	1.6	13.0	14.4	+ 1.4	.81	.30	1.11	1.50	+ .39	.....	.....	.....	.....
84	23..	11.3	1.6	12.9	14.3	+ 1.4	.88	.30	1.18	1.23	+ .05	.....	0.018	.....	.....
85	24..	11.0	1.6	12.6	13.0	+ .4	.75	.31	1.06	1.14	+ .08	.....	.....	.....	61.3
86	25..	11.6	1.6	13.2	14.5	+ 1.3	.87	.31	1.18	1.28	+ .10	.....	.....	.....	.....
87	26..	10.9	1.6	12.5	13.3	+ .8	.71	.31	1.02	1.17	+ .15	.....	.....	.....	.....
88	27..	10.5	1.6	12.1	14.1	+ 2.0	.81	.31	1.12	1.23	+ .11	.....	.....	.....	.....
89	28..	12.0	1.6	13.6	13.5	- .1	.75	.31	1.06	1.19	+ .13	.....	.....	.....	.....
90	29..	12.1	1.6	13.7	15.4	+ 1.7	.81	.31	1.12	1.50	+ .38	.....	.....	.....	.....
91	30..	10.6	1.6	12.2	13.7	+ 1.5	.86	.31	1.17	1.18	+ .01	.....	.015	.....	61.3
Total....		154.3	22.4	176.7	193.3	+16.6	11.27	4.27	15.54	17.68	+ 2.14	.....	.033	.....	.....
Average.		11.0	1.6	12.6	13.8	+ 1.2	.81	.30	1.11	1.26	+ .15	.....	.....	.....	.....
Grand total..		980.7	158.9	1,139.6	1,291.3	+15.7	71.41	34.24	105.65	120.61	+14.96	1.034	1.081	-.047	.....
Average.		10.8	1.7	12.5	14.2	+ 1.7	.79	.38	1.17	1.34	+ .17	.....	.....	.....	.....

Copper input in coppered vegetables.....	Grams.
Copper input, accidental, based on copper of feces in fore period.....	1.034
	.155
Copper output.....	1.189
Retention.....	1.011
	.17

CHART IX.—Daily balances—Continued.

SUBJECT No. 3 (O. H. C.).

PERIOD OF UNCOLORED PEAS.

Day of experiment.		Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
			Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
1	Mar.	1..	Gms. 10.2	Gms. 1.3	Gms. 11.5	Gms. 11.2	-0.3	Gms. 0.80	Gms. 0.29	Gms. 1.09	Gms. 1.02	-0.07	Gm.	Gm.	Gm.	Kilos. 72.1
2		2..	10.5	1.3	11.8	12.3	+ .5	.78	.29	1.07	1.01	+.06				
3		3..	10.9	1.3	12.2	12.3	+ .1	.67	.29	.96	1.11	+.15				
4		4..	10.8	1.3	12.1	12.3	+ .2	.63	.29	.92	1.08	+.16				
5		5..	9.7	1.3	11.0	12.4	+2.4	.63	.29	.92	1.17	+.25				
6		6..	10.6	1.3	11.9	13.2	+1.3	1.03	.29	1.32	1.31	-.01				
7		7..	11.7	1.3	13.0	13.2	+ .2	.85	.29	1.14	1.09	-.05				
8		8..	11.3	1.3	12.6	12.7	+ .1	.82	.29	1.11	1.00	-.11				72.5
9		9..	11.1	1.3	12.4	12.4	- .0	.71	.29	1.00	1.04	+.04				
10		10..	11.4	1.3	12.7	12.4	- .3	.67	.29	.96	1.10	+.14				
11		11..	11.1	1.3	12.4	12.7	+ .3	.75	.29	1.04	.98	-.06				
12		12..	11.5	1.3	12.8	12.5	- .3	.74	.29	1.03	1.08	+.05				
13		13..	11.2	1.3	12.5	13.2	+ .7	1.02	.29	1.31	1.33	+.02				
14		14..	11.2	1.3	12.5	13.3	+ .8	.77	.29	1.06	1.08	+.02		0.028		
15		15..	11.9	1.4	13.3	12.3	-1.0	.77	.30	1.07	.97	-.10				72.6
16		16..	10.2	1.4	11.6	12.5	+ .9	.58	.30	.88	1.00	+.12				
17		17..	11.6	1.4	13.0	12.1	- .9	.84	.30	1.14	1.08	-.06				
18		18..	11.1	1.4	12.5	12.3	- .2	.65	.30	.95	.96	+.01				
19		19..	10.4	1.4	11.8	13.2	+1.4	.70	.30	1.00	1.10	+.10				
20		20..	9.9	1.4	11.3	13.7	+2.4	.65	.30	.95	1.25	+.30				
21		21..	12.2	1.4	13.6	12.3	-1.3	.22	.30	.52	.90	+.38				
22		22..	13.2	1.4	14.6	12.8	-1.8	.66	.30	.96	.93	-.03				71.5
23		23..	14.8	1.4	16.2	12.8	-3.4	.90	.30	1.20	1.00	-.20				
24		24..	12.3	1.4	13.7	12.9	- .8	1.03	.30	1.33	1.06	-.27				
25		25..	11.5	1.4	12.9	12.7	- .2	.82	.30	1.12	.96	-.16				
26		26..	12.4	1.4	13.8	13.0	- .8	.86	.30	1.16	1.07	-.09				
27		27..	11.7	1.4	13.1	14.0	+ .9	.79	.30	1.09	1.24	+.15		.035		
Total....			306.4	36.4	342.8	343.7	+ .9	20.34	7.96	28.30	28.92	+.62		.063		
Average.			11.34	1.34	12.68	12.70	+ .02	.75	.30	1.05	1.07	+.02				

PERIOD OF COPPERED PEAS.

28	Mar.	28..	12.1	1.8	13.9	14.4	+0.5	0.70	0.35	1.05	1.13	+0.08	0.0173			71.3
29		29..	11.4	1.8	13.2	13.2	.0	.60	.35	.95	1.04	+.09	.0186			
30		30..	10.7	1.8	12.5	12.7	+ .2	.70	.35	1.05	1.10	+.05	.0156			
31		31..	10.6	1.8	12.4	12.8	+ .4	.68	.35	1.03	1.15	+.12	.0176			
32	Apr.	1..	10.6	1.8	12.4	13.0	+ .6	.63	.35	.98	1.00	+.02	.0180			
33		2..	9.6	1.8	11.4	13.2	+1.8	.74	.35	1.09	1.14	+.05	.0167			
34		3..	9.6	1.8	11.4	14.7	+3.3	.80	.35	1.15	1.35	+.20	.0147			
35		4..	10.9	1.8	12.7	14.8	+2.1	.79	.35	1.14	1.17	+.03	.0146			
36		5..	10.8	1.8	12.6	12.8	+ .3	.73	.35	1.08	1.03	-.05	.0164			72.3
37		6..	11.1	1.8	12.9	12.9	- .1	.77	.35	1.12	1.05	-.07	.0182			
38		7..	11.4	1.8	13.2	13.0	- .2	.84	.35	1.19	1.15	-.04	.0170			
39		8..	11.1	1.8	12.9	13.3	+ .4	.66	.35	1.01	1.05	+.04	.0158			
40		9..	11.1	1.8	12.9	13.1	+ .2	.66	.35	1.01	1.17	+.16	.0177			
41		10..	11.1	1.8	12.9	13.8	+ .9	1.00	.35	1.35	1.28	-.07	.0156			
42		11..	11.1	1.8	12.9	14.1	+1.2	.68	.35	1.03	1.14	+.11	.0174	0.165		
43		12..	10.9	2.4	13.3	12.6	- .7	.70	.41	1.11	1.06	-.05	.0176			72.2
44		13..	11.8	2.4	14.2	13.2	-1.0	.66	.41	1.07	1.07	-.00	.0173			
45		14..	10.0	2.4	12.4	12.7	+ .3	.80	.41	1.21	1.14	-.07	.0164			
46		15..	11.5	2.4	13.9	13.6	- .3	.72	.41	1.13	1.09	-.04	.0140			
47		16..	10.9	2.4	13.3	13.3	.0	.65	.41	1.06	1.19	+.13	.0152			
48		17..	11.8	2.4	14.2	14.5	+ .3	.96	.41	1.37	1.39	+.02	.0143			
49		18..	11.4	2.4	13.8	14.3	+ .5	.85	.41	1.26	1.18	-.08	.0164			72.1
50		19..	11.3	2.4	13.7	12.3	-1.4	.82	.41	1.23	1.07	-.16	.0159			
51		20..	11.0	2.4	13.4	12.3	-1.1	.76	.41	1.17	1.12	-.05	.0119			
52		21..	10.5	2.4	12.9	12.8	- .1	.61	.41	1.02	1.18	+.16	.0117			
53		22..	11.7	2.4	14.1	13.0	-1.1	.67	.41	1.08	1.03	-.05	.0122			
54		23..	10.3	2.4	12.7	12.9	+ .2	.74	.41	1.15	1.13	-.02	.0102			
55		24..	10.6	2.4	13.0	13.6	+ .6	.73	.41	1.14	1.35	+.21	.0125			
56		25..	10.6	2.4	13.0	14.0	+1.0	.70	.41	1.11	1.19	+.08	.0129	.220		
57		26..	11.1	2.7	13.8	12.9	- .9	.75	.51	1.26	1.10	-.16	.0128			72.7
58		27..	10.2	2.7	12.9	12.8	- .1	.87	.51	1.38	1.11	-.27	.0144			
59		28..	9.6	2.7	12.3	13.5	+1.2	.58	.51	1.09	1.19	+.10	.0089			

CHART IX.—Daily balances—Continued.

SUBJECT No. 3—Continued.

PERIOD OF COPPERED PEAS—Continued.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Gm.	Kilos.
60	Apr. 29..	9.7	2.7	12.4	13.2	+ 0.8	0.79	0.51	1.30	1.05	-0.25	0.0138			
61	30..	11.6	2.7	14.3	13.4	- .9	.80	.51	1.31	1.17	- .14	.0132			
62	May 1..	10.6	2.7	13.3	14.1	+ .8	.85	.51	1.36	1.36	.....	.0111			
63	2..	11.5	2.7	14.2	13.9	- .3	.87	.51	1.38	1.17	- .21	.0138	0.100		
64	3..	10.0	2.0	12.0	12.9	+ .9	.85	.34	1.19	1.08	- .11	.0193			72.4
65	4..	11.1	2.0	13.1	12.9	- .2	.80	.34	1.14	1.10	- .04	.0182			
66	5..	11.7	2.0	13.7	13.4	- .3	.98	.34	1.32	1.13	- .19	.0206			
67	6..	9.6	2.0	11.6	13.3	+ 1.7	.76	.34	1.10	1.06	- .04	.0199			
68	7..	12.2	2.0	14.2	14.2	.....	.51	.34	.85	1.17	+ .32	.0179			
69	8..	12.6	2.0	14.6	14.2	- .4	.92	.34	1.26	1.33	+ .07	.0182			
70	9..	12.3	2.0	14.3	13.7	- .6	.84	.34	1.18	1.12	- .06	.0198			
71	10..	10.1	2.0	12.1	13.1	+ 1.0	.71	.34	1.05	1.09	+ .04	.0175			72.3
72	11..	10.1	2.0	12.1	13.5	+ 1.4	.68	.34	1.02	1.13	+ .11	.0189			
73	12..	10.8	2.0	12.8	13.6	+ .8	.70	.34	1.04	1.17	+ .13	.0214			
74	13..	10.1	2.0	12.1	13.4	+ 1.3	.74	.34	1.08	1.08	.....	.0201			
75	14..	10.9	2.0	12.9	14.1	+ 1.2	.89	.34	1.23	1.21	- .02	.0207			
76	15..	11.1	2.0	13.1	14.5	+ 1.4	.82	.34	1.16	1.31	+ .15	.0202			
77	16..	9.9	2.0	11.9	13.2	+ 1.3	.79	.34	1.13	1.06	- .07	.0210	.215		
Total....		544.3	107.5	651.8	670.7	+ 18.9	37.85	19.32	57.17	57.33	+ .16	.811	.700		
Average.		10.9	2.1	13.0	13.4	+ .4	.76	.39	1.15	1.15	.....			

AFTER PERIOD—UNCOLORED PEAS.

78	May 17..	11.4	1.8	13.2	12.5	- 0.7	0.77	0.32	1.09	1.09	.....				72.1
79	18..	10.9	1.8	12.7	13.2	+ .5	.79	.32	1.11	1.11	.....			
80	19..	10.8	1.8	12.6	12.5	- .1	.74	.32	1.06	1.14	+ .08				
81	20..	10.3	1.8	12.1	12.7	+ .6	.70	.32	1.02	1.11	+ .09				
82	21..	10.7	1.8	12.5	13.8	+ 1.3	.86	.32	1.18	1.19	+ .01				
83	22..	10.1	1.8	11.9	13.4	+ 1.5	.74	.32	1.06	1.29	+ .23				
84	23..	12.4	1.8	14.2	13.4	- .8	.93	.32	1.25	1.03	- .22		0.016		
85	24..	12.1	2.2	14.3	12.9	- 1.4	.76	.38	1.14	1.09	- .05				72.5
86	25..	10.5	2.2	12.7	13.7	+ 1.0	.76	.38	1.14	1.12	- .02				
87	26..	11.1	2.2	13.3	13.1	- .2	.78	.38	1.16	1.07	- .09				
88	27..	10.7	2.2	12.9	13.6	+ .7	.71	.38	1.09	1.09	.....			
89	28..	11.1	2.2	13.3	13.4	+ .1	.84	.38	1.22	1.14	- .08				
90	29..	11.5	2.2	13.7	14.4	+ .7	.93	.38	1.31	1.29	- .02				
91	30..	11.6	2.2	13.8	13.0	- .8	.78	.38	1.16	1.01	- .15		.018		72.2
Total....		155.2	28.0	183.2	185.6	+ 2.4	11.09	4.90	15.99	15.77	- .22		.034		
Average.		11.1	2.0	13.1	13.3	+ .2	.79	.35	1.14	1.13	- .01				
Grand total		1,005.9	171.9	1,177.8	1,200.0	+ 22.2	69.28	32.18	101.46	102.02	+ .56	.811	.797	+ .014	
Average.		11.1	1.9	13.0	13.2	+ .2	.76	.35	1.11	1.12	+ .01				

¹ May 31.

Copper input in coppered vegetables.....	0.811
Accidental copper input, based on copper in feces of fore period.....	.115
	.926
Copper output.....	.700
Retention.....	.22

Gram.

CHART IX.—Daily balances—Continued.

SUBJECT No. 4 (E. S. F.).

PERIOD OF UNCOLORED PEAS.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
1	Mar. 1..	Gms. 9.3	Gms. 1.5	Gms. 10.8	Gms. 11.7	+ 0.9	Gms. 0.72	Gm. 0.32	Gms. 1.04	Gms. 1.20	+0.16	Gm.	Gm.	Gm.	Kilos. 66.1
2	2..	10.6	1.5	12.1	12.9	+ .8	.74	.32	1.06	1.18	+ .12				
3	3..	10.2	1.5	11.7	13.5	+ 1.8	.81	.32	1.13	1.31	+ .18				
4	4..	11.4	1.5	12.9	13.6	+ .7	.82	.32	1.14	1.32	+ .18				
5	5..	11.1	1.5	12.6	13.8	+ 1.2	.88	.32	1.20	1.29	+ .09				
6	6..	11.0	1.5	12.5	14.5	+ 2.0	1.02	.32	1.34	1.58	+ .24				
7	7..	10.7	1.5	12.2	14.3	+ 2.1	.98	.32	1.30	1.32	+ .02				
8	8..	9.5	1.5	11.0	13.8	+ 2.8	.87	.32	1.19	1.24	+ .05				65.5
9	9..	11.5	1.5	13.0	13.7	+ .7	.90	.32	1.22	1.29	+ .07				
10	10..	10.2	1.5	11.7	13.9	+ 2.2	.87	.32	1.19	1.38	+ .19				
11	11..	9.3	1.5	10.8	14.1	+ 3.3	.74	.32	1.06	1.26	+ .20				
12	12..	10.4	1.5	11.9	13.5	+ 1.6	.85	.32	1.17	1.27	+ .10				
13	13..	10.9	1.5	12.4	14.8	+ 2.4	1.03	.32	1.35	1.62	+ .27				
14	14..	11.1	1.5	12.6	14.3	+ 1.7	.97	.32	1.29	1.31	+ .02		0.016		
15	15..	10.1	1.5	11.6	13.5	+ 1.9	.87	.28	1.15	1.23	+ .08				66.4
16	16..	9.7	1.5	11.2	14.0	+ 2.8	.60	.28	.88	1.29	+ .41				
17	17..	9.0	1.5	10.5	13.5	+ 3.0	.83	.28	1.11	1.35	+ .24				
18	18..	10.9	1.5	12.4	13.6	+ 1.2	.87	.28	1.15	1.24	+ .09				
19	19..	9.6	1.5	11.1	14.2	+ 3.1	.80	.28	1.08	1.31	+ .23				
20	20..	10.7	1.5	12.2	15.6	+ 3.4	1.08	.28	1.36	1.59	+ .23				
21	21..	11.2	1.5	12.7	15.6	+ 2.9	.83	.28	1.11	1.37	+ .26				
22	22..	10.5	1.5	12.0	14.1	+ 2.1	.78	.28	1.06	1.18	+ .12				66.5
23	23..	10.6	1.5	12.1	14.3	+ 2.2	.73	.28	1.01	1.30	+ .29				
24	24..	9.9	1.5	11.4	14.1	+ 2.7	.68	.28	.96	1.33	+ .37				
25	25..	10.1	1.5	11.6	14.0	+ 2.4	.76	.28	1.04	1.22	+ .18				
26	26..	10.3	1.5	11.8	13.9	+ 2.1	.75	.28	1.03	1.28	+ .25				
27	27..	9.8	1.5	11.3	15.4	+ 4.1	.88	.28	1.16	1.55	+ .39				
28	28..	10.0	1.5	11.5	15.1	+ 3.6	.84	.28	1.12	1.33	+ .21				
29	29..	10.3	1.5	11.8	14.0	+ 2.2	.68	.28	.96	1.22	+ .26				66.6
30	30..	10.9	1.5	12.4	13.4	+ 1.0	.76	.28	1.04	1.28	+ .24				
31	31..	10.2	1.5	11.7	13.3	+ 1.6	.79	.28	1.07	1.31	+ .24				
32	Apr. 1..	9.1	1.5	10.6	13.9	+ 3.3	.75	.28	1.03	1.20	+ .17				
33	2..	10.3	1.5	11.8	13.7	+ 1.9	.71	.28	.99	1.27	+ .28				
34	3..	9.9	1.5	11.4	15.6	+ 4.2	.80	.28	1.08	1.56	+ .48				
35	4..	10.0	1.5	11.5	15.5	+ 4.0	.86	.28	1.14	1.36	+ .22		.047		
36	5..	11.0	1.8	12.8	13.7	+ .9	.71	.33	1.04	1.23	+ .19				67.1
37	6..	9.3	1.8	11.1	13.4	+ 2.3	.71	.33	1.04	1.22	+ .18				
38	7..	9.7	1.8	11.5	13.7	+ 2.2	.80	.33	1.13	1.34	+ .21				
39	8..	8.4	1.8	10.2	13.7	+ 3.5	.64	.33	.97	1.22	+ .25				
40	9..	9.4	1.8	11.2	13.8	+ 2.6	.76	.33	1.09	1.32	+ .23				
41	10..	10.6	1.8	12.4	15.2	+ 2.8	1.07	.33	1.40	1.56	+ .16				
42	11..	10.7	1.8	12.5	15.1	+ 2.6	.57	.33	.90	1.36	+ .46				
43	12..	8.9	1.8	10.7	13.2	+ 2.5	.73	.33	1.06	1.22	+ .16				67.5
44	13..	10.8	1.8	12.6	14.0	+ 1.4	.82	.33	1.15	1.28	+ .13				
45	14..	9.2	1.8	11.0	13.5	+ 2.5	.80	.33	1.13	1.34	+ .21				
46	15..	8.8	1.8	10.6	14.2	+ 3.6	.67	.33	1.00	1.27	+ .27				
47	16..	10.1	1.8	11.9	13.7	+ 1.8	.83	.33	1.16	1.29	+ .13				
48	17..	10.6	1.8	12.4	15.4	+ 3.0	.95	.33	1.28	1.62	+ .34				
49	18..	10.5	1.8	12.3	15.4	+ 3.1	.71	.33	1.04	1.39	+ .35		.027		
50	19..	10.5	2.2	12.7	13.4	+ .7	.91	.39	1.30	1.28	+ .02				67.7
51	20..	10.3	2.2	12.5	13.2	+ .7	.90	.39	1.29	1.30	+ .01				
52	21..	10.2	2.2	12.4	13.4	+ 1.0	.82	.39	1.21	1.37	+ .16				
53	22..	10.0	2.2	12.2	13.7	+ 1.5	.88	.39	1.27	1.24	+ .03				
54	23..	10.8	2.2	13.0	13.4	+ .4	.89	.39	1.28	1.24	+ .04				
55	24..	10.3	2.2	12.5	14.7	+ 2.2	.87	.39	1.26	1.60	+ .34				
56	25..	11.1	2.2	13.3	14.9	+ 1.6	.83	.39	1.22	1.39	+ .17				
57	26..	10.7	2.2	12.9	13.5	+ .6	.92	.39	1.31	1.29	+ .02				68.0
58	27..	11.0	2.2	13.2	13.7	+ .5	1.00	.39	1.39	1.31	+ .08				
59	28..	10.6	2.2	12.8	14.3	+ 1.5	.89	.39	1.28	1.37	+ .09				
60	29..	9.2	2.2	11.4	14.2	+ 2.8	.96	.39	1.35	1.29	+ .06				

CHART IX.—Daily balances—Continued.

SUBJECT No. 4—Continued.

PERIOD OF UNCOLORED PEAS—Continued.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Gm.	Gm.	Kilos.
61	Apr. 30..	11.2	2.2	13.4	14.0	+ 0.6	0.71	0.39	1.10	1.30	+ .20	.....	.....	.....	.....
62	May 1..	10.9	2.2	13.1	15.2	+ 2.1	.90	.39	1.29	1.59	+ .30	.....	.....	.....	.....
63	2..	11.2	2.2	13.4	14.6	+ 1.2	1.01	.39	1.40	1.35	— .05	.....	0.057	.....	.....
64	3..	11.2	1.5	12.7	12.6	— .1	.77	.26	1.03	1.22	+ .19	.....	.....	.....	69.1
65	4..	10.7	1.5	12.2	13.0	+ .8	.85	.26	1.11	1.26	+ .15	.....	.....	.....	.....
66	5..	10.4	1.5	11.9	13.2	+ 1.3	.80	.26	1.06	1.29	+ .23	.....	.....	.....	.....
67	6..	12.3	1.5	13.8	13.4	— .4	1.02	.26	1.28	1.27	— .01	.....	.....	.....	.....
68	7..	10.7	1.5	12.2	13.5	+ 1.3	.94	.26	1.20	1.23	+ .03	.....	.....	.....	.....
69	8..	12.5	1.5	14.0	14.2	+ .2	.96	.26	1.22	1.47	+ .25	.....	.....	.....	.....
70	9..	10.8	1.5	12.3	14.0	+ 1.7	.98	.26	1.24	1.28	+ .04	.....	.....	.....	.....
71	10..	10.4	1.5	11.9	13.0	+ 1.1	.88	.26	1.14	1.26	+ .12	.....	.....	.....	68.6
72	11..	10.6	1.5	12.1	13.3	+ 1.2	.88	.26	1.14	1.26	+ .12	.....	.....	.....	.....
73	12..	10.5	1.5	12.0	13.4	+ 1.4	1.03	.26	1.29	1.34	+ .05	.....	.....	.....	.....
74	13..	10.9	1.5	12.4	13.3	+ .9	.95	.26	1.21	1.24	+ .03	.....	.....	.....	.....
75	14..	13.0	1.5	14.5	13.5	— 1.0	.80	.26	1.06	1.29	+ .23	.....	.....	.....	.....
76	15..	11.9	1.5	13.4	13.8	+ .4	.97	.26	1.23	1.38	+ .15	.....	.....	.....	.....
77	16..	12.3	1.5	13.8	13.3	— .5	.99	.26	1.25	1.23	— .02	.....	.041	.....	.....
Total....		804.5	129.5	934.0	1074.4	+140.4	64.93	24.08	89.01	101.94	+12.93	.....	.188	.....	.....
Average.		10.5	1.7	12.2	14.0	+ 1.8	.84	.31	1.15	1.32	+ .17	.....	.....	.....	.....

PERIOD OF COPPER SULPHATE.

78	May 17..	10.8	1.4	12.2	12.8	+ 0.6	0.89	0.30	1.19	1.31	+ 0.12	0.0314	.....	.....	68.2
79	18..	10.7	1.4	12.1	13.6	+ 1.5	.83	.30	1.13	1.36	+ .23	.0314	.....	.....	.....
80	19..	10.9	1.4	12.3	12.9	+ .6	.95	.30	1.25	1.42	+ .17	.0314	.....	.....	.....
81	20..	11.8	1.4	13.2	13.6	+ .4	1.01	.30	1.31	1.45	+ .14	.0314	.....	.....	.....
82	21..	12.3	1.4	13.7	14.0	+ .3	.83	.30	1.13	1.38	+ .25	.0314	.....	.....	.....
83	22..	9.8	1.4	11.2	13.6	+ 2.4	.91	.30	1.21	1.53	+ .32	.....	.....	.....	.....
84	23..	13.2	1.4	14.6	14.2	— .4	1.11	.30	1.41	1.37	— .04	.....	0.125	.....	.....
Total....		79.5	9.8	89.3	94.7	+ 5.4	6.53	2.10	8.63	9.82	+ 1.19	.157	.125	.....	.....
Average.		11.4	1.4	12.8	13.5	+ .7	.93	.30	1.23	1.40	+ .17	.....	.....	.....	.....

AFTER PERIOD—UNCOLORED PEAS.

85	May 24..	10.9	1.2	12.1	13.4	+ 1.3	0.94	0.25	1.19	1.38	+ 0.19	.....	.....	.....	67.3
86	25..	11.1	1.2	12.3	14.2	+ 1.9	.84	.25	1.09	1.39	+ .30	.....	.....	.....	.....
87	26..	11.4	1.2	12.6	13.6	+ 1.0	.93	.25	1.18	1.36	+ .18	.....	.....	.....	.....
88	27..	10.3	1.2	11.5	14.1	+ 2.6	.91	.25	1.16	1.35	+ .19	.....	.....	.....	.....
89	28..	11.8	1.2	13.0	13.9	+ .9	.87	.25	1.12	1.35	+ .23	.....	.....	.....	.....
90	29..	12.4	1.2	13.6	14.6	+ 1.0	1.04	.25	1.29	1.51	+ .22	.....	.....	.....	.....
91	30..	10.9	1.2	12.1	13.8	+ 1.7	.90	.25	1.15	1.33	+ .18	.....	0.014	.....	167.3
Total....		78.8	8.4	87.2	97.6	+ 10.4	6.43	1.75	8.18	9.67	+ 1.49	.....	.014	.....	.....
Average.		11.3	1.2	12.5	13.9	+ 1.4	.92	.25	1.17	1.38	+ .21	.....	.....	.....	.....
Grand total		962.8	147.7	1110.5	1266.7	+156.2	77.89	27.93	105.82	121.43	+15.61	.157	.327	—0.1	70
Average.		10.6	1.6	12.2	13.9	+ 1.7	.85	.31	1.16	1.33	+ .17	.....	.....	.....	.....

1 May 31.

CHART IX.—Daily balances—Continued.

SUBJECT No. 5 (C. P. K.).

FORE PERIOD—UNCOLORED PEAS.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	Body weights.
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Kilos.
1	Mar. 1..	11.3	1.8	13.1	11.6	- 1.5	0.89	0.38	1.27	1.09	- 0.18	.....	.....	.....	74.6
2	2..	10.9	1.8	12.7	13.5	+ .8	.75	.38	1.13	1.22	+ .09	.....	.....	.....	.....
3	3..	9.4	1.8	11.2	13.4	+ 2.2	.71	.38	1.09	1.29	+ .20	.....	.....	.....	.....
4	4..	13.0	1.8	14.8	13.8	- 1.0	1.00	.38	1.38	1.33	- .05	.....	.....	.....	.....
5	5..	9.9	1.8	11.7	14.3	+ 2.6	.65	.38	1.03	1.31	+ .28	.....	.....	.....	.....
6	6..	13.5	1.8	15.3	14.5	- .8	1.20	.38	1.58	1.57	- .01	.....	.....	.....	.....
7	7..	11.6	1.8	13.4	14.9	+ 1.5	.92	.38	1.30	1.34	+ .04	.....	.....	.....	.....
8	8..	11.9	1.8	13.7	13.2	- .5	.88	.38	1.26	1.06	- .20	.....	.....	.....	74.5
9	9..	12.2	1.8	14.0	13.8	- .2	.81	.38	1.19	1.26	+ .07	.....	.....	.....	.....
10	10..	8.7	1.8	10.5	13.6	+ 3.1	.60	.38	.98	1.31	+ .33	.....	.....	.....	.....
11	11..	13.1	1.8	14.9	14.1	- .8	1.03	.38	1.41	1.19	- .22	.....	.....	.....	.....
12	12..	8.4	1.8	10.2	13.2	+ 3.0	.57	.38	.95	1.20	+ .25	.....	.....	.....	.....
13	13..	13.3	1.8	15.1	14.6	- .5	1.27	.38	1.65	1.60	- .05	.....	.....	.....	.....
14	14..	8.7	1.8	10.5	15.0	+ 4.5	.51	.38	.89	1.32	+ .43	.....	0.036	.....	.....
Total....		155.9	25.2	181.1	193.5	+12.41	1.79	5.32	17.11	18.09	+ .98	.....	-.036	.....	.....
Average.		11.1	1.8	12.9	13.8	+ .9	.84	.38	1.22	1.29	+ .07	.....	-.003	.....	.....

PERIOD OF COPPERED PEAS.

15	Mar. 15..	14.8	1.9	16.7	13.0	- 3.7	1.17	0.42	1.59	1.07	- 0.52	0.0171	.....	.....	75.3
16	16..	8.6	1.9	10.5	14.0	+ 3.5	.45	.42	.87	1.24	+ .37	.0180	.....	.....	.....
17	17..	12.6	1.9	14.5	13.5	- 1.0	1.07	.42	1.49	1.34	- .15	.0191	.....	.....	.....
18	18..	11.4	1.9	13.3	13.7	+ .4	.84	.42	1.26	1.21	- .05	.0164	.....	.....	.....
19	19..	11.5	1.9	13.4	14.4	+ 1.0	.93	.42	1.35	1.30	- .05	.0168	.....	.....	.....
20	20..	11.2	1.9	13.1	15.6	+ 2.5	.95	.42	1.37	1.55	+ .18	.0165	.....	.....	.....
21	21..	12.1	1.9	14.0	16.5	+ 2.5	.81	.42	1.23	1.41	+ .18	.0179	.....	.....	.....
22	22..	11.3	1.9	13.2	13.6	- .4	.87	.42	1.29	1.03	- .26	.0165	.....	.....	74.1
23	23..	13.6	1.9	15.5	14.5	- 1.0	.94	.42	1.36	1.27	- .09	.0147	.....	.....	.....
24	24..	8.4	1.9	10.3	14.4	+ 4.1	.48	.42	.90	1.33	+ .43	.0170	.....	.....	.....
25	25..	10.6	1.9	12.5	14.4	+ 1.9	.67	.42	1.09	1.22	+ .13	.0179	.....	.....	.....
26	26..	13.5	1.9	15.4	14.0	- 1.4	1.08	.42	1.50	1.24	- .26	.0183	.....	.....	.....
27	27..	11.0	1.9	12.9	15.3	+ 2.4	.90	.42	1.32	1.52	+ .20	.0162	.....	.....	.....
28	28..	12.5	1.9	14.4	16.1	+ 1.7	.84	.42	1.26	1.36	+ .10	.0173	.....	.....	.....
29	29..	11.0	1.9	12.9	13.6	- .7	.78	.42	1.20	1.07	- .13	.0186	.....	.....	74.8
30	30..	8.3	1.9	10.2	13.7	+ 3.5	.40	.42	.82	1.28	+ .46	.0156	.....	.....	.....
31	31..	9.5	1.9	11.4	13.9	+ 2.5	.63	.42	1.05	1.36	+ .31	.0176	.....	.....	.....
32	Apr. 1..	12.0	1.9	13.9	13.9	- .0	.96	.42	1.38	1.14	- .24	.0180	.....	.....	.....
33	2..	13.2	1.9	15.1	13.8	- 1.3	.97	.42	1.39	1.24	- .15	.0167	.....	.....	.....
34	3..	8.9	1.9	10.8	15.6	+ 4.8	.54	.42	.96	1.52	+ .56	.0147	.....	.....	.....
35	4..	12.5	1.9	14.4	16.3	+ 1.9	1.07	.42	1.49	1.37	- .12	.0146	0.314	.....	75.0
36	5..	13.6	1.7	15.3	13.6	- 1.7	.98	.36	1.34	1.11	- .23	.0218	.....	.....	.....
37	6..	10.1	1.7	11.8	14.1	+ 2.3	.56	.36	.92	1.24	+ .32	.0242	.....	.....	.....
38	7..	8.0	1.7	9.7	14.3	+ 4.6	.29	.36	.65	1.39	+ .74	.0226	.....	.....	.....
39	8..	8.6	1.7	10.3	14.6	+ 4.3	.80	.36	1.16	1.26	+ .10	.0210	.....	.....	.....
40	9..	11.0	1.7	12.7	13.9	+ 1.2	.90	.36	1.26	1.30	+ .04	.0236	.....	.....	.....
41	10..	9.8	1.7	11.5	15.2	+ 3.7	.77	.36	1.13	1.50	+ .37	.0208	.....	.....	.....
42	11..	12.5	1.7	14.2	16.1	+ 1.9	1.00	.36	1.36	1.40	+ .04	.0232	.....	.....	.....
43	12..	12.0	1.7	13.7	13.3	- .4	.92	.36	1.28	1.14	- .14	.0234	.....	.....	75.0
44	13..	10.9	1.7	12.6	14.6	+ 2.0	.63	.36	.99	1.29	+ .30	.0230	.....	.....	.....
45	14..	10.5	1.7	12.2	13.8	+ 1.6	.67	.36	1.03	1.33	+ .30	.0218	.....	.....	.....
46	15..	9.1	1.7	10.8	14.9	+ 4.1	.64	.36	1.00	1.29	+ .29	.0186	.....	.....	.....
47	16..	11.6	1.7	13.3	14.0	+ .7	.83	.36	1.19	1.30	+ .11	.0202	.....	.....	.....
48	17..	11.7	1.7	13.4	16.0	+ 2.6	.94	.36	1.30	1.64	+ .34	.0190	.....	.....	.....
49	18..	14.9	1.7	16.6	16.1	- .5	1.21	.36	1.57	1.41	- .16	.0218	.....	.....	.....
50	19..	12.0	1.7	13.7	12.9	- .8	.83	.36	1.19	1.14	- .05	.0212	.....	.....	.....
51	20..	12.0	1.7	13.7	2.0	- 11.7	.28	.36	.64	.24	- .40	.....	.330	.....	.....
52	26..	11.2	1.9	13.1	13.3	+ .2	.79	.48	1.27	1.22	- .05	.0255	.....	.....	73.0
53	27..	8.5	1.9	10.4	14.0	+ 3.6	.58	.48	1.06	1.31	+ .25	.0288	.....	.....	.....
54	28..	10.6	1.9	12.5	14.4	+ 1.9	.72	.48	1.20	1.35	+ .15	.0177	.....	.....	.....

¹ Sick Apr. 21-25.

CHART IX.—Daily balances—Continued.

SUBJECT No. 5—Continued.

PERIOD OF COPPERED PEAS—Continued.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Kilos.
55	Apr. 29..	11.1	1.9	13.0	14.6	+ 1.6	0.94	0.48	1.42	1.28	-0.14	0.0276			
56	30..	13.9	1.9	15.8	14.7	- 1.1	1.19	.48	1.67	1.36	- .31	.0264			
57	May 1..	10.3	1.9	12.2	15.3	+ 3.1	.91	.48	1.39	1.56	+ .17	.0222			
58	2..	11.6	1.9	13.5	14.6	+ 1.1	.96	.48	1.44	1.34	- .10	.0276	0.190		
59	3..	10.7	2.0	12.7	13.0	+ .3	.97	.40	1.37	1.15	- .22	.0311			73.1
60	4..	10.9	2.0	12.9	13.5	+ .6	.85	.40	1.25	1.24	- .01	.0305			
61	5..	10.1	2.0	12.1	14.0	+ 1.9	.76	.40	1.16	1.29	+ .13	.0341			
62	6..	10.4	2.0	12.4	13.8	+ 1.4	.73	.40	1.13	1.24	+ .11	.0323			
63	7..	8.0	2.0	10.0	14.5	+ 4.5	.51	.40	.91	1.28	+ .37	.0294			
64	8..	11.8	2.0	13.8	14.8	+ 1.0	.96	.40	1.36	1.50	+ .14	.0291			
65	9..	10.6	2.0	12.6	14.3	+ 1.7	.80	.40	1.20	1.29	+ .09	.0336			
66	10..	9.5	2.0	11.5	13.1	+ 1.6	.68	.40	1.08	1.15	+ .07	.0275			73.4
67	11..	6.0	2.0	8.0	14.0	+ 6.0	.29	.40	.69	1.26	+ .57	.0306			
68	12..	9.4	2.0	11.4	13.9	+ 2.5	.68	.40	1.08	1.29	+ .21	.0359			
69	13..	15.2	2.0	17.2	13.8	- 3.4	1.10	.40	1.50	1.21	- .29	.0324			
70	14..	10.8	2.0	12.8	14.5	+ 1.7	.82	.40	1.22	1.32	+ .10	.0342			
71	15..	10.4	2.0	12.4	15.2	+ 2.8	.80	.40	1.20	1.48	+ .28	.0335			
72	16..	10.2	2.0	12.2	13.9	+ 1.7	.77	.40	1.17	1.25	+ .08	.0345	.424		
Total....		693.0	108.4	746.4	820.4	+ 74.0	46.41	23.54	69.95	74.42	+4.47	1.306	1.258	+ .048	
Average.		11.0	1.9	12.9	14.1	+ 1.2	.80	.40	1.20	1.28	+ .08	.023	.022	+ .001	

AFTER PERIOD—UNCOLORED PEAS.

73	May 17..	5.3	2.2	7.5	12.3	+ 4.8	0.23	0.45	0.68	1.15	+ .47				73.2
74	18..	13.6	2.2	15.8	13.5	- 2.3	1.16	.45	1.61	1.25	- .36				
75	19..	9.0	2.2	11.2	12.5	+ 1.3	.67	.45	1.12	1.24	+ .12				
76	20..	9.8	2.2	12.0	13.1	+ 1.1	.69	.45	1.14	1.27	+ .13				
77	21..	10.5	2.2	12.7	13.9	+ 1.2	.89	.45	1.34	1.30	- .04				
78	22..	9.9	2.2	12.1	14.2	+ 2.1	.82	.45	1.27	1.48	+ .21				
79	23..	10.3	2.2	12.5	13.9	+ 1.4	.77	.45	1.22	1.21	- .01		0.055		
80	24..	10.1	2.0	12.1	12.7	+ .6	.79	.38	1.17	1.16	- .01				73.5
81	25..	9.8	2.0	11.8	14.0	+ 2.2	.84	.38	1.22	1.27	+ .05				
82	26..	10.0	2.0	12.0	13.2	+ 1.2	.72	.35	1.10	1.17	+ .07				
83	27..	8.9	2.0	10.9	14.1	+ 3.2	.71	.38	1.09	1.27	+ .18				
84	28..	10.0	2.0	12.0	13.6	+ 1.6	.67	.38	1.05	1.24	+ .19				
85	29..	11.8	2.0	13.8	14.7	+ .9	.83	.38	1.21	1.44	+ .23				
86	30..	12.1	2.0	14.1	13.4	- .7	.92	.38	1.30	1.18	- .12		.019		
Total....		141.1	29.4	170.5	189.1	+ 18.6	10.71	5.81	16.52	17.63	+1.11		-.074		
Average.		10.1	2.1	12.2	13.5	+ 1.3	.77	.41	1.18	1.26	+ .08		-.005		
Grand total....		935.0	163.0	1,098.0	1,203.0	+105.0	68.91	34.67	103.58	110.14	+6.56	1.306	1.368	-.062	
Average.		10.9	1.9	12.8	14.0	+ 1.2	.80	.40	1.20	1.28	+ .08				

Grams.

Copper input in coppered vegetables..... 1.306

Accidental copper input, based on copper of feces of fore period..... .150

Copper output..... 1.456

Retention..... 1.258

Retention..... .20

CHART IX.—Daily balances—Continued.

SUBJECT No. 6 (W. C. T.).

FORE PERIOD—UNCOLORED PEAS.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
1	Mar. 1..	Gms. 10.1	Gms. 1.7	Gms. 11.8	Gms. 12.5	+ 0.7	Gms. 0.69	Gms. 0.30	Gms. 0.99	Gms. 1.19	+0.20	Gm.	Gm.	Gm.	Kilos. 67.4
2	2..	8.2	1.7	9.9	13.8	+ 3.9	.56	.30	.86	1.19	+ .33	.....	.....	.....	.....
3	3..	10.0	1.7	11.7	14.0	+ 2.3	.73	.30	1.03	1.31	+ .28	.....	.....	.....	.....
4	4..	10.0	1.7	11.7	14.1	+ 2.4	.76	.30	1.06	1.31	+ .25	.....	.....	.....	.....
5	5..	9.8	1.7	11.5	14.7	+ 3.2	.79	.30	1.09	1.31	+ .22	.....	.....	.....	.....
6	6..	10.2	1.7	11.9	15.5	+ 3.6	.79	.30	1.09	1.64	+ .55	.....	.....	.....	.....
7	7..	10.0	1.7	11.7	15.0	+ 3.3	.83	.30	1.13	1.31	+ .18	.....	.....	.....	.....
8	8..	9.4	1.7	11.1	14.3	+ 3.2	.57	.30	.87	1.19	+ .32	.....	.....	.....	69.0
9	9..	9.4	1.7	11.1	14.2	+ 3.1	.72	.30	1.02	1.25	+ .23	.....	.....	.....	.....
10	10..	8.9	1.7	10.6	14.2	+ 3.6	.67	.30	.97	1.31	+ .34	.....	.....	.....	.....
11	11..	9.3	1.7	11.0	14.4	+ 3.4	.63	.30	.93	1.18	+ .25	.....	.....	.....	.....
12	12..	10.1	1.7	11.8	14.3	+ 2.5	.83	.30	1.13	1.27	+ .14	.....	.....	.....	.....
13	13..	12.3	1.7	14.0	15.8	+ 1.8	.83	.30	1.13	1.69	+ .56	.....	0.029	.....	.....
Total....		127.7	22.1	149.8	186.8	+ 37.0	9.40	3.90	13.30	17.15	+3.85	.....	-.029	.....	.....
Average.		9.8	1.7	11.5	14.4	+ 2.9	.72	.30	1.02	1.32	+ .30	.....	-.002	.....	.....

PERIOD OF COPPERED PEAS.

14	Mar. 22..	12.5	1.7	14.2	14.7	+ 0.5	0.75	0.28	1.03	1.15	+0.12	0.0165	.....	.....	66.7
15	23..	11.9	1.7	13.6	15.0	+ 1.4	.69	.28	.97	1.27	+ .30	.0147	.....	.....	.....
16	24..	9.8	1.7	11.5	14.9	+ 3.4	.85	.28	1.13	1.33	+ .20	.0170	.....	.....	.....
17	25..	9.7	1.7	11.4	14.8	+ 3.4	.74	.28	1.02	1.20	+ .18	.0179	.....	.....	.....
18	26..	10.1	1.7	11.8	14.8	+ 3.0	.65	.28	.93	1.29	+ .36	.0183	.....	.....	.....
19	27..	11.5	1.7	13.2	16.3	+ 3.1	.83	.28	1.11	1.59	+ .48	.0162	.....	.....	.....
20	28..	11.7	1.7	13.4	16.0	+ 2.6	.95	.28	1.23	1.32	+ .09	.0173	.....	.....	.....
21	29..	10.8	1.7	12.5	14.7	+ 2.2	.70	.28	.98	1.19	+ .21	.0186	.....	.....	66.5
22	30..	10.6	1.7	12.3	14.1	+ 1.8	.83	.28	1.11	1.26	+ .15	.0156	.....	.....	.....
23	31..	9.5	1.7	11.2	14.3	+ 3.1	.70	.28	.98	1.34	+ .36	.0176	.....	.....	.....
24	Apr. 1..	9.0	1.7	10.7	14.4	+ 3.7	.66	.28	.94	1.15	+ .21	.0180	.....	.....	.....
25	2..	8.8	1.7	10.5	14.7	+ 4.2	.65	.28	.93	1.30	+ .37	.0167	.....	.....	.....
26	3..	10.2	1.7	11.9	16.7	+ 4.8	.79	.28	1.07	1.61	+ .54	.0147	.....	.....	.....
27	4..	9.4	1.7	11.1	16.3	+ 5.2	.73	.28	1.01	1.35	+ .34	.0146	0.175	.....	.....
28	5..	8.4	1.9	10.3	14.2	+ 3.9	.55	.32	.87	1.19	+ .32	.0164	.....	.....	69.0
29	6..	9.4	1.9	11.3	14.2	+ 2.9	.70	.32	1.02	1.21	+ .19	.0182	.....	.....	.....
30	7..	8.5	1.9	10.4	14.6	+ 4.2	.71	.32	1.03	1.35	+ .32	.0170	.....	.....	.....
31	8..	11.6	1.9	13.5	14.5	+ 1.0	.63	.32	.95	1.20	+ .25	.0158	.....	.....	.....
32	9..	9.8	1.9	11.7	14.4	+ 2.7	.70	.32	1.02	1.30	+ .28	.0177	.....	.....	.....
33	10..	9.6	1.9	11.5	15.8	+ 4.3	.75	.32	1.07	1.55	+ .48	.0156	.....	.....	.....
34	11..	9.1	1.9	11.0	15.7	+ 4.7	.74	.32	1.06	1.31	+ .25	.0174	.....	.....	.....
35	12..	9.2	1.9	11.1	13.8	+ 2.7	.78	.32	1.10	1.22	+ .12	.0176	.....	.....	69.0
36	13..	9.6	1.9	11.5	14.6	+ 3.1	.78	.32	1.10	1.22	+ .12	.0173	.....	.....	.....
37	14..	9.9	1.9	11.8	14.1	+ 2.3	.78	.32	1.10	1.31	+ .21	.0164	.....	.....	.....
38	15..	10.6	1.9	12.5	14.9	+ 2.4	.78	.32	1.10	1.24	+ .14	.0140	.....	.....	.....
39	16..	11.6	1.9	13.5	14.7	+ 1.2	.78	.32	1.10	1.34	+ .24	.0152	.....	.....	.....
40	17..	11.5	1.9	13.4	16.3	+ 2.9	.90	.32	1.22	1.64	+ .42	.0143	.....	.....	.....
41	18..	11.5	1.9	13.4	15.8	+ 2.4	.80	.32	1.12	1.34	+ .22	.0164	.248	.....	.....
42	19..	10.4	2.3	12.7	13.5	+ .8	.73	.39	1.12	1.22	+ .10	.0159	.....	.....	69.2
43	20..	10.6	2.3	12.9	13.7	+ .8	.70	.39	1.09	1.28	+ .19	.0119	.....	.....	.....
44	21..	9.9	2.3	12.2	14.2	+ 2.0	.78	.39	1.17	1.36	+ .19	.0117	.....	.....	.....
45	22..	10.6	2.3	12.9	14.3	+ 1.4	.75	.39	1.14	1.19	+ .05	.0122	.....	.....	.....
46	23..	11.1	2.3	13.4	14.4	+ 1.0	.78	.39	1.17	1.28	+ .11	.0102	.....	.....	.....
47	24..	11.2	2.3	13.5	15.3	+ 1.8	.81	.39	1.20	1.58	+ .38	.0125	.....	.....	.....
48	25..	10.2	2.3	12.5	15.6	+ 3.1	.73	.39	1.12	1.37	+ .25	.0129	.....	.....	.....
49	26..	9.6	2.3	11.9	13.9	+ 2.0	.67	.39	1.06	1.23	+ .17	.0128	.....	.....	69.7
50	27..	10.1	2.3	12.4	14.3	+ 1.9	.76	.39	1.15	1.27	+ .12	.0144	.....	.....	.....
51	28..	9.6	2.3	11.9	14.9	+ 3.0	.71	.39	1.10	1.37	+ .27	.0089	.....	.....	.....
52	29..	9.7	2.3	12.0	15.0	+ 3.0	.62	.39	1.01	1.24	+ .23	.0138	.....	.....	.....
53	30..	10.3	2.3	12.6	14.9	+ 2.3	.80	.39	1.19	1.32	+ .13	.0132	.....	.....	.....
54	May 1..	10.8	2.3	13.1	16.0	+ 2.9	.84	.39	1.23	1.60	+ .37	.0111	.....	.....	.....
55	2..	11.8	2.3	14.1	15.4	+ 1.3	.89	.39	1.28	1.35	+ .07	.0138	.258	.....	.....

¹Sick Mar. 14-21.

CHART IX.—*Daily balances*—Continued.

SUBJECT No. 6—Continued.

PERIOD OF COPPERED PEAS—Continued.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.*	
		<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gm.</i>	<i>Gm.</i>	<i>Gm.</i>	<i>Kilos.</i>
56	May 3..	10.5	2.0	12.5	13.9	+ 1.4	0.72	0.30	1.02	1.20	+ 0.18	0.0193	.....	.....	70.4
57	4..	10.5	2.0	12.5	14.2	+ 1.7	.61	.30	.91	1.26	+ .35	.0182	.....	.....	.....
58	5..	9.6	2.0	11.6	14.8	+ 3.2	.69	.30	.99	1.30	+ .31	.0206	.....	.....	.....
59	6..	9.5	2.0	11.5	14.9	+ 3.4	.72	.30	1.02	1.25	+ .23	.0199	.....	.....	.....
60	7..	10.0	2.0	12.0	15.6	+ 3.6	.62	.30	.92	1.31	+ .39	.0179	.....	.....	.....
61	8..	11.4	2.0	13.4	16.3	+ 2.9	.81	.30	1.11	1.60	+ .49	.0182	.....	.....	.....
62	9..	10.8	2.0	12.8	15.1	+ 2.3	.78	.30	1.08	1.28	+ .20	.0198	.....	.....	.....
63	10..	9.2	2.0	11.2	14.1	+ 2.9	.52	.30	.82	1.22	+ .40	.0175	.....	.....	70.7
64	11..	8.2	2.0	10.2	15.0	+ 4.8	.62	.30	.92	1.28	+ .36	.0189	.....	.....	.....
65	12..	10.0	2.0	12.0	14.8	+ 2.8	.73	.30	1.03	1.32	+ .29	.0214	.....	.....	.....
66	13..	10.0	2.0	12.0	14.6	+ 2.6	.79	.30	1.09	1.21	+ .12	.0201	.....	.....	.....
67	14..	11.1	2.0	13.1	14.7	+ 1.6	.83	.30	1.13	1.32	+ .19	.0207	.....	.....	.....
68	15..	11.2	2.0	13.2	16.3	+ 3.1	.93	.30	1.23	1.56	+ .33	.0202	.....	.....	.....
69	16..	11.4	2.0	13.4	14.7	+ 1.3	.89	.30	1.19	1.25	+ .06	.0210	0.292	.....	.....
Total....		575.1	110.6	685.7	833.7	+148.0	41.73	18.06	59.79	73.79	+14.00	.912	.973	-.061	.....
Average.		10.3	2.0	12.3	14.9	+ 2.6	.75	.32	1.07	1.32	+ .25	.016	.017	-.001	.....

AFTER PERIOD—UNCOLORED PEAS.

70	May 17..	9.6	1.7	11.3	13.5	+ 2.2	0.64	0.27	0.91	1.20	+ 0.29	.....	.....	.....	70.4
71	18..	9.7	1.7	11.4	14.6	+ 3.2	.69	.27	.96	1.25	+ .29	.....	.....	.....	.....
72	19..	10.0	1.7	11.7	13.6	+ 1.9	.74	.27	1.01	1.29	+ .28	.....	.....	.....	.....
73	20..	9.5	1.7	11.2	14.0	+ 2.8	.53	.27	.80	1.28	+ .48	.....	.....	.....	.....
74	21..	9.9	1.7	11.6	15.2	+ 3.6	.71	.27	.98	1.33	+ .35	.....	.....	.....	.....
75	22..	9.6	1.7	11.3	15.3	+ 4.0	.75	.27	1.02	1.54	+ .52	.....	.....	.....	.....
76	23..	9.7	1.7	11.4	14.9	+ 3.5	.92	.27	1.19	1.21	+ .02	.....	0.022	.....	.....
77	24..	10.1	1.8	11.9	14.0	+ 2.1	.76	.26	1.02	1.22	+ .20	.....	.....	.....	71.0
78	25..	10.6	1.8	12.4	15.0	+ 2.6	.83	.26	1.09	1.26	+ .17	.....	.....	.....	.....
79	26..	12.6	1.8	14.4	14.0	- .4	.85	.26	1.11	1.15	+ .04	.....	.....	.....	.....
80	27..	11.5	1.8	13.3	15.0	+ 1.7	.73	.26	.99	1.24	+ .25	.....	.....	.....	.....
81	28..	11.5	1.8	13.3	15.0	+ 1.7	.72	.26	.98	1.29	+ .31	.....	.....	.....	.....
82	29..	10.8	1.8	12.6	16.3	+ 3.7	.76	.26	1.02	1.51	+ .49	.....	.....	.....	.....
83	30..	10.2	1.8	12.0	14.7	+ 2.7	.75	.26	1.01	1.21	+ .20	.....	.015	.....	(1)
Total....		145.3	24.5	169.8	205.1	+ 35.3	10.38	3.71	14.09	17.98	+ 3.89	.....	-.037	.....	.....
Average.		10.4	1.8	12.2	14.7	+ 2.5	.74	.26	1.00	1.28	+ .28	.....	.....	.....	.....
Grand total....		848.1	157.2	1,005.3	1,225.6	+220.3	61.51	25.67	87.18	108.92	+21.74	.912	1.039	-.127	.....
Average.		10.2	1.9	12.1	14.8	+ 2.7	.74	.31	1.05	1.31	+ .26	.....	.....	.....	.....

¹ May 31.

Grams.

Copper input in coppered vegetables..... 0.912

Copper input, accidental, based on copper of feces of fore period..... .120

1.032

Copper output..... .973

Retention..... .06

CHART IX.—Daily balances—Continued.

SUBJECT No. 7 (J. F. W.).

FORE PERIOD—UNCOLORED PEAS.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	Body weights.
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Gm.	Gm.	Gm.	Kilos.
1	Mar. 1..	10.2	1.6	11.8	11.6	- 0.2	0.82	0.41	1.03	1.12	+ 0.09	.....	.....	.....	66.9
2	2..	10.5	1.6	12.1	12.7	+ .6	.74	.41	1.15	1.10	- .05	.....	.....	.....	.....
3	3..	10.4	1.6	12.0	12.9	+ .9	.76	.41	1.17	1.29	+ .12	.....	.....	.....	.....
4	4..	10.9	1.6	12.5	12.9	+ .4	.81	.41	1.22	1.22	.....	.....	.....	.....	.....
5	5..	10.5	1.6	12.1	13.7	+ 1.6	.78	.41	1.19	1.29	+ .10	.....	.....	.....	.....
6	6..	10.9	1.6	12.5	14.12	+ 1.7	.83	.41	1.29	1.57	+ .28	.....	.....	.....	.....
7	7..	11.3	1.6	12.9	13.7	+ .8	.85	.41	1.26	1.20	- .06	.....	.....	.....	.....
8	8..	11.4	1.6	13.0	13.0	.....	.85	.41	1.26	1.10	- .16	.....	.....	.....	66.5
9	9..	12.3	1.6	13.9	12.9	- 1.0	.82	.41	1.23	1.14	- .09	.....	.....	.....	.....
10	10..	11.0	1.6	12.6	13.4	+ .8	.89	.41	1.30	1.31	+ .01	.....	.....	.....	.....
11	11..	11.8	1.6	13.4	13.3	- .1	.83	.41	1.24	1.10	- .14	.....	.....	.....	.....
12	12..	11.2	1.6	12.8	13.2	+ .4	.69	.41	1.10	1.25	+ .15	.....	.....	.....	.....
13	13..	11.6	1.6	13.2	14.4	+ 1.2	.75	.41	1.16	1.62	+ .46	.....	.....	.....	.....
14	14..	11.2	1.6	12.8	13.8	+ 1.0	.70	.41	1.11	1.18	+ .07	.....	0.026	.....	.....
Total....		155.2	22.4	177.6	155.7	+ 8.1	10.97	5.47	16.71	17.49	+ .78	.....	.....	.....	.....
Average.		11.1	1.6	12.7	13.3	+ .6	.78	.41	1.19	1.25	+ .06	.....	.....	.....	.....

PERIOD OF COPPERED PEAS.

15	Mar. 15..	10.5	1.5	12.0	13.0	+ 1.0	0.80	0.38	1.18	1.13	- 0.05	0.0171	.....	.....	66.9
16	16..	10.5	1.5	12.0	13.3	+ 1.3	.81	.38	1.19	1.16	- .03	.0180	.....	.....	.....
17	17..	10.7	1.5	12.2	13.3	+ 1.1	.84	.38	1.22	1.34	+ .12	.0191	.....	.....	.....
18	18..	10.7	1.5	12.2	13.0	+ .8	.69	.38	1.07	1.13	+ .06	.0164	.....	.....	.....
19	19..	11.1	1.5	12.6	14.3	+ 1.7	.69	.38	1.07	1.34	+ .27	.0168	.....	.....	.....
20	20..	10.6	1.5	12.1	15.3	+ 3.2	.91	.38	1.29	1.56	+ .27	.0165	.....	.....	.....
21	21..	11.4	1.5	12.9	15.4	+ 2.5	.74	.38	1.12	1.29	+ .17	.0179	.....	.....	.....
22	22..	11.6	1.5	13.1	13.5	+ .4	.78	.38	1.16	1.08	- .08	.0165	.....	.....	66.8
23	23..	11.5	1.5	13.0	13.6	+ .6	.67	.38	1.05	1.17	+ .12	.0147	.....	.....	.....
24	24..	11.8	1.5	13.3	14.0	+ .7	.88	.38	1.26	1.33	+ .07	.0170	.....	.....	.....
25	25..	10.2	1.5	11.7	13.7	+ 2.0	.63	.38	1.01	1.14	+ .13	.0179	.....	.....	.....
26	26..	10.7	1.5	12.2	13.9	+ 1.7	.73	.38	1.11	1.28	+ .17	.0183	.....	.....	.....
27	27..	11.2	1.5	12.7	15.0	+ 2.3	.90	.38	1.28	1.52	+ .24	.0162	.....	.....	.....
28	28..	11.4	1.5	12.9	15.0	+ 2.1	.67	.38	1.05	1.24	+ .19	.0173	.....	.....	.....
29	29..	12.0	1.5	13.5	13.5	.....	.83	.38	1.21	1.12	- .09	.0186	.....	.....	66.4
30	30..	11.3	1.5	12.8	12.9	+ .1	.82	.38	1.20	1.18	- .02	.0156	.....	.....	.....
31	31..	11.6	1.5	13.1	13.6	+ .5	.79	.38	1.17	1.36	+ .19	.0176	.....	.....	.....
32	Apr. 1..	11.3	1.5	12.8	13.1	+ .3	.69	.38	1.07	1.05	- .02	.0180	.....	.....	.....
33	2..	11.7	1.5	13.2	13.7	+ .5	.72	.38	1.10	1.29	+ .19	.0167	.....	.....	.....
34	3..	11.9	1.5	13.4	15.3	+ 1.9	.90	.38	1.28	1.53	+ .25	.0147	.....	.....	.....
35	4..	13.1	1.5	14.6	15.0	+ .4	.85	.35	1.23	1.24	+ .01	.0146	0.289	.....	.....
36	5..	13.1	1.8	14.9	13.3	- 1.6	.85	.41	1.26	1.13	- .13	.0218	.....	.....	66.2
37	6..	12.5	1.8	14.3	13.4	- .9	.82	.41	1.23	1.16	- .07	.0242	.....	.....	.....
38	7..	11.7	1.8	13.5	14.2	+ .7	.84	.41	1.25	1.42	+ .17	.0226	.....	.....	.....
39	8..	11.8	1.8	13.6	13.9	+ .3	.75	.41	1.16	1.18	+ .02	.0210	.....	.....	.....
40	9..	11.1	1.8	12.9	13.9	+ 1.0	.65	.41	1.06	1.35	+ .29	.0236	.....	.....	.....
41	10..	11.3	1.8	13.1	15.0	+ 1.9	.80	.41	1.21	1.52	+ .31	.0208	.....	.....	.....
42	11..	11.8	1.8	13.6	15.2	+ 1.6	.78	.41	1.19	1.29	+ .10	.0232	.....	.....	.....
43	12..	11.2	1.8	13.0	13.1	+ .1	.72	.41	1.13	1.19	+ .06	.0234	.....	.....	66.8
44	13..	11.1	1.8	12.9	13.7	+ .8	.83	.41	1.24	1.18	- .06	.0230	.....	.....	.....
45	14..	11.8	1.8	13.6	13.8	+ .2	.82	.41	1.23	1.37	+ .14	.0218	.....	.....	.....
46	15..	11.1	1.8	12.9	14.1	+ 1.2	.73	.41	1.14	1.20	+ .06	.0186	.....	.....	.....
47	16..	12.5	1.8	14.3	14.1	- .2	.72	.41	1.13	1.38	+ .25	.0202	.....	.....	.....
48	17..	12.3	1.8	14.1	15.6	+ 1.5	1.01	.41	1.42	1.65	+ .23	.0190	.....	.....	.....
49	18..	12.7	1.8	14.5	15.1	+ .6	.90	.41	1.31	1.31	.....	.....	.....	.....	.....
50	19..	12.4	1.8	14.2	12.8	- 1.4	.87	.41	1.28	1.20	- .08	.0212	.294	.....	65.8
51	20..	11.9	2.1	14.0	12.7	- 1.3	.85	.47	1.32	1.26	- .06	.0237	.....	.....	.....
52	21..	11.6	2.1	13.7	13.8	+ .1	.85	.47	1.32	1.41	+ .09	.0234	.....	.....	.....
53	22..	12.2	2.1	14.3	14.0	- .3	.84	.47	1.31	1.23	- .08	.0243	.....	.....	.....
54	23..	11.8	2.1	13.9	14.2	+ .3	.79	.47	1.26	1.37	+ .11	.0204	.....	.....	.....
55	24..	11.3	2.1	13.4	14.9	+ 1.5	.96	.47	1.43	1.62	+ .19	.0249	.....	.....	.....
56	25..	11.4	2.1	13.5	15.2	+ 1.7	.80	.47	1.27	1.38	+ .11	.0258	.....	.....	.....
57	26..	11.7	2.1	13.8	13.7	- .1	.83	.47	1.35	1.28	- .07	.0265	.....	.....	65.3

CHART IX.—*Daily balances*—Continued.

SUBJECT No. 7—Continued.

PERIOD OF COPPERED PEAS—Continued.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.		
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Kilos.
58	Apr. 27..	10.9	2.1	13.0	13.5 + 0.5	0.82	0.47	1.29	1.26 - 0.03	0.0288	.....	.....	.....	.....
59	28..	11.9	2.1	14.0	14.7 + .7	.82	.47	1.29	1.46 + .17	.0177	.....	.....	.....	.....
60	29..	11.1	2.1	13.2	14.2 + 1.0	.87	.47	1.34	1.23 - .11	.0276	.....	.....	.....	.....
61	30..	11.5	2.1	13.6	14.6 + 1.0	.60	.47	1.07	1.41 + .34	.0264	.....	.....	.....	.....
62	May 1..	11.6	2.1	13.7	15.6 + 1.9	.81	.47	1.28	1.65 + .37	.0222	.....	.....	.....	.....
63	2..	12.2	2.1	14.3	14.9 + .6	.83	.47	1.30	1.34 + .04	.0276	0.389	.....	.....	.....
64	3..	11.1	2.1	13.2	13.5 + .3	.82	.40	1.22	1.22 - .....	.0335	.....	.....	.....	66.5
65	4..	10.9	2.1	13.0	13.8 + .8	.76	.40	1.16	1.25 + .09	.0324	.....	.....	.....	.....
66	5..	11.2	2.1	13.3	14.4 + 1.1	.79	.40	1.19	1.31 + .12	.0364	.....	.....	.....	.....
67	6..	10.6	2.1	12.7	14.2 + 1.5	.71	.40	1.11	1.24 + .13	.0347	.....	.....	.....	.....
68	7..	9.8	2.1	11.9	15.3 + 3.4	.59	.40	.99	1.38 + .39	.0315	.....	.....	.....	.....
69	8..	12.3	2.1	14.4	15.8 + 1.4	.90	.40	1.30	1.64 + .34	.0315	.....	.....	.....	.....
70	9..	11.5	2.1	13.6	14.4 + .8	.74	.40	1.14	1.27 + .13	.0356	.....	.....	.....	.....
71	10..	10.3	2.1	12.4	13.7 + 1.3	.79	.40	1.19	1.24 + .05	.0299	.....	.....	.....	66.3
72	11..	10.3	2.1	12.4	14.5 + 2.1	.70	.40	1.10	1.30 + .20	.0330	.....	.....	.....	.....
73	12..	10.7	2.1	12.8	14.5 + 1.7	.61	.40	1.01	1.36 + .35	.0381	.....	.....	.....	.....
74	13..	10.2	2.1	12.3	14.1 + 1.8	.71	.40	1.11	1.23 + .12	.0350	.....	.....	.....	.....
75	14..	10.6	2.1	12.7	15.4 + 2.7	.74	.40	1.14	1.45 + .31	.0366	.....	.....	.....	.....
76	15..	11.5	2.1	13.6	16.4 + 2.8	.84	.40	1.24	1.65 + .41	.0357	.....	.....	.....	.....
77	16..	11.0	2.1	13.1	14.0 + .9	.77	.40	1.17	1.24 + .07	.0370	.454	.....	.....	.....
Total....		718.3	115.2	833.5	894.6 + 61.1	49.62	25.84	75.46	82.69 + 7.23	1.481	1.426	.....	.....	.....
Average.		11.4	1.8	13.2	14.2 + 1.0	.79	.41	1.20	1.31 + .11	.....	.....	.....	.....	.....

AFTER PERIOD—UNCOLORED PEAS.

78	May 17..	11.5	2.0	13.5	13.0 - 0.5	0.75	0.41	1.16	1.25 + 0.09	.....	.....	.....	.....	66.1
79	18..	10.8	2.0	12.8	13.8 + 1.0	.83	.41	1.24	1.26 + .02	.....	.....	.....	.....	.....
80	19..	10.9	2.0	12.9	13.0 + .1	.87	.41	1.28	1.30 + .02	.....	.....	.....	.....	.....
81	20..	11.1	2.0	13.1	13.3 + .2	.79	.41	1.20	1.28 + .08	.....	.....	.....	.....	.....
82	21..	11.8	2.0	13.8	15.0 + 1.2	.73	.41	1.14	1.43 + .29	.....	.....	.....	.....	.....
83	22..	10.6	2.0	12.6	14.9 + 2.3	.85	.41	1.26	1.58 + .32	.....	.....	.....	.....	.....
84	23..	11.6	2.0	13.6	14.2 + .6	.69	.41	1.10	1.20 + .10	.....	0.043	.....	.....	65.8
85	24..	12.3	2.0	14.3	13.2 - 1.1	.87	.38	1.25	1.23 - .02	.....	.....	.....	.....	.....
86	25..	10.9	2.0	12.9	14.2 + 1.3	.87	.38	1.25	1.26 + .01	.....	.....	.....	.....	.....
87	26..	11.5	2.0	13.5	13.7 + .2	.85	.38	1.23	1.18 - .05	.....	.....	.....	.....	.....
88	27..	11.4	2.0	13.4	14.5 + 1.1	.78	.38	1.16	1.31 + .15	.....	.....	.....	.....	.....
89	28..	12.0	2.0	14.0	14.5 + .5	.80	.38	1.18	1.35 + .17	.....	.....	.....	.....	.....
90	29..	12.3	2.0	14.3	15.7 + 1.4	.77	.38	1.15	1.54 + .39	.....	.....	.....	.....	.....
91	30..	10.4	2.0	12.4	13.7 + 1.3	.76	.38	1.14	1.17 + .03	.....	.019	.....	.....	.....
Total....		159.1	28.0	187.1	196.7 + 9.6	11.21	5.53	16.74	18.34 + 1.60	.....	-.062	.....	.....	.....
Average.		11.4	2.0	13.4	14.1 + .7	.80	.40	1.20	1.31 + .11	.....	-.005	.....	.....	.....
Grand total....		1,032.6	165.6	1,198.2	1,277.0 + 78.8	71.80	37.11	108.91	118.52 + 9.61	1.481	1.514	-.033	.....	.....
Average.		11.3	1.8	13.1	14.0 + .9	.79	.41	1.20	1.30 + .10	.....	.....	.....	.....	.....

Grams.

Copper input in coppered vegetables.....	1.481
Accidental copper input, based on copper of feces of fore period.....	.115
	1.596
Copper output.....	1.426
Retention.....	.170

CHART IX.—Daily balances—Continued.

SUBJECT No. 8 (M. W.).

FORE PERIOD—UNCOLORED PEAS.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
1	Mar. 1..	10.6	1.9	12.5	12.9	+ 0.4	0.80	0.40	1.20	1.22	+0.02				71.7
2	2..	11.1	1.9	13.0	14.7	+ 1.7	.81	.40	1.21	1.26	+ .05				71.7
3	3..	11.1	1.9	13.0	14.3	+ 1.3	.74	.40	1.14	1.31	+ .17				71.7
4	4..	10.1	1.9	12.0	14.5	+ 2.5	.76	.40	1.16	1.34	+ .18				71.7
5	5..	11.0	1.9	12.9	15.8	+ 2.9	.77	.40	1.17	1.44	+ .27				71.7
6	6..	12.7	1.9	14.6	16.0	+ 1.4	.95	.40	1.35	1.67	+ .32				71.7
7	7..	11.2	1.9	13.1	15.4	+ 2.3	.78	.40	1.18	1.33	+ .15				71.7
8	8..	11.6	1.9	13.5	14.7	+ 1.2	.83	.40	1.23	1.21	-.02				72.0
9	9..	10.9	1.9	12.8	14.9	+ 2.1	.79	.40	1.19	1.30	+ .11				72.0
10	10..	11.5	1.9	13.4	14.6	+ 1.2	.69	.40	1.09	1.32	+ .23				72.0
11	11..	10.8	1.9	12.7	15.0	+ 2.3	.71	.40	1.11	1.22	+ .11				72.0
12	12..	12.0	1.9	13.9	15.2	+ 1.3	.81	.40	1.21	1.38	+ .17				72.0
13	13..	12.5	1.9	14.4	16.2	+ 1.8	1.08	.40	1.48	1.71	+ .23				72.0
14	14..	11.8	1.9	13.7	15.5	+ 1.8	.83	.40	1.23	1.32	+ .09		0.031		72.0
Total....		158.9	26.6	185.5	209.7	+ 24.2	11.35	5.60	16.95	19.03	+2.08		-.031		72.0
Average.		11.4	1.9	13.3	15.0	+ 1.7	.81	.40	1.21	1.36	+ .15		-.002		72.0

PERIOD OF COPPERED PEAS.

15	Mar. 15..	11.5	1.7	13.2	14.6	+ 1.4	0.88	0.40	1.28	1.22	-0.06	0.0171			72.2
16	16..	10.7	1.7	12.4	15.3	+ 2.9	.77	.40	1.17	1.30	+ .13	.0180			72.2
17	17..	11.4	1.7	13.1	14.7	+ 1.6	.72	.40	1.12	1.37	+ .25	.0191			72.2
18	18..	11.2	1.7	12.9	14.7	+ 1.8	.74	.40	1.14	1.22	+ .08	.0164			72.2
19	19..	11.4	1.7	13.1	16.0	+ 2.9	.76	.40	1.16	1.42	+ .26	.0198			72.2
20	20..	12.0	1.7	13.7	17.1	+ 3.4	1.09	.40	1.40	1.65	+ .25	.0165			72.2
21	21..	12.1	1.7	13.8	16.9	+ 3.1	.92	.40	1.32	1.37	+ .05	.0179			72.2
22	22..	11.3	1.7	13.0	15.3	+ 2.3	.77	.40	1.17	1.19	+ .02	.0165			72.2
23	23..	11.9	1.7	13.6	15.4	+ 1.8	.80	.40	1.20	1.28	+ .08	.0147			72.2
24	24..	11.6	1.7	13.3	15.5	+ 2.2	.67	.40	1.07	1.35	+ .28	.0170			72.2
25	25..	11.2	1.7	12.9	15.0	+ 2.1	.73	.40	1.13	1.20	+ .07	.0179			72.2
26	26..	11.3	1.7	13.0	15.7	+ 2.7	.69	.40	1.09	1.39	+ .30	.0183			72.2
27	27..	12.7	1.7	14.4	16.8	+ 2.4	.88	.40	1.28	1.61	+ .33	.0162			72.2
28	28..	12.2	1.7	13.9	16.4	+ 2.5	.89	.40	1.29	1.34	+ .05	.0173			72.2
29	29..	11.8	1.7	13.5	15.1	+ 1.6	.78	.40	1.18	1.20	+ .02	.0186			72.2
30	30..	12.0	1.7	13.7	14.8	+ 1.1	.87	.40	1.27	1.30	+ .03	.0156			72.2
31	31..	10.7	1.7	12.4	15.0	+ 2.6	.68	.40	1.08	1.38	+ .30	.0176			72.2
32	Apr. 1..	13.3	1.7	15.0	14.7	-.3	.82	.40	1.22	1.16	-.06	.0180			72.2
33	2..	10.9	1.7	12.6	15.6	+ 3.0	.70	.40	1.10	1.41	+ .31	.0167			72.2
34	3..	13.5	1.7	15.2	17.1	+ 1.9	1.06	.40	1.46	1.63	+ .17	.0147			72.2
35	4..	12.7	1.7	14.4	16.7	+ 2.3	.78	.40	1.18	1.36	+ .18	.0146	0.274		72.2
36	5..	12.0	1.8	13.8	15.0	+ 1.2	.83	.41	1.24	1.25	+ .01	.0218			72.2
37	6..	11.4	1.8	13.2	15.2	+ 2.0	.74	.41	1.15	1.29	+ .14	.0242			72.2
38	7..	11.7	1.8	13.5	15.4	+ 1.9	.87	.41	1.28	1.40	+ .12	.0226			72.2
39	8..	11.2	1.8	13.0	15.5	+ 2.5	.69	.41	1.10	1.28	+ .18	.0210			72.2
40	9..	11.2	1.8	13.0	15.5	+ 2.5	.74	.41	1.15	1.43	+ .28	.0236			72.2
41	10..	11.3	1.8	13.1	16.7	+ 3.6	.97	.41	1.38	1.62	+ .24	.0208			72.2
42	11..	11.8	1.8	13.6	16.6	+ 3.0	.81	.41	1.22	1.39	+ .17	.0232			72.2
43	12..	12.6	1.8	14.4	14.5	-.1	.95	.41	1.36	1.28	-.08	.0234			72.2
44	13..	10.7	1.8	12.5	16.0	+ 3.5	.88	.41	1.29	1.31	+ .02	.0230			72.2
45	14..	11.5	1.8	13.3	15.7	+ 2.2	.64	.41	1.05	1.38	+ .33	.0218			72.2
46	15..	13.6	1.8	15.4	15.7	-.3	.78	.41	1.19	1.30	+ .11	.0186			72.2
47	16..	11.9	1.8	13.7	16.7	+ 2.0	.82	.41	1.23	1.46	+ .23	.0202			72.2
48	17..	12.1	1.8	13.9	17.2	+ 3.3	1.07	.41	1.48	1.72	+ .24	.0190			72.2
49	18..	13.5	1.8	15.3	16.5	+ 1.2	1.05	.41	1.46	1.40	-.06	.0218			72.2
50	19..	13.4	1.8	15.2	14.2	-.1	.85	.41	1.26	1.28	+ .02	.0212	.351		72.2
51	20..	12.6	1.7	14.3	14.4	-.1	.95	.35	1.30	1.37	+ .07	.0237			72.2
52	21..	11.7	1.7	13.4	14.9	+ 1.5	.72	.35	1.07	1.39	+ .32	.0234			72.2
53	22..	13.0	1.7	14.7	15.4	+ .7	.82	.35	1.17	1.31	+ .14	.0243			72.2
54	23..	11.5	1.7	13.2	15.6	+ 2.4	.79	.35	1.14	1.42	+ .28	.0204			72.2
55	24..	12.5	1.7	14.2	16.3	+ 2.1	1.05	.35	1.40	1.65	+ .25	.0249			72.2
56	25..	10.8	1.7	12.5	15.5	+ 3.0	.69	.35	1.04	1.37	+ .33	.0258			72.2
57	26..	13.1	1.7	14.8	14.8	.0	1.01	.35	1.36	1.37	+ .01	.0255			72.2

CHART IX.—Daily balances—Continued.

SUBJECT No. 8—Continued.

PERIOD OF COPPERED PEAS—Continued.

Day of experiment.	Date (1911).	Nitrogen.					Phosphorus.					Copper.			Body weights.
		Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Of urine.	Of feces.	Total output.	Total input.	Daily balances.	Input.	Output (feces).	Balance.	
		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gm.	Kilos.
58	Apr. 27..	9.9	1.7	11.6	15.2	+ 3.6	0.72	0.35	1.07	1.35	+0.28	0.0288	.....	.....	.....
59	28..	11.5	1.7	13.2	15.8	+ 2.6	.84	.35	1.19	1.43	+ .24	.0177	.....	.....	.....
60	29..	11.9	1.7	13.6	15.6	+ 2.0	.81	.35	1.16	1.32	+ .16	.0276	.....	.....	.....
61	30..	11.2	1.7	12.9	16.4	+ 3.5	.79	.35	1.14	1.51	+ .37	.0264	.....	.....	.....
62	May 1..	11.4	1.7	13.1	17.0	+ 3.9	.84	.35	1.19	1.70	+ .51	.0222	.....	.....	.....
63	2..	13.5	1.7	15.2	16.0	+ .8	1.06	.35	1.41	1.40	— .01	.0276	0.292	.....	.....
64	3..	11.8	2.6	14.4	15.3	+ .9	.92	.46	1.38	1.32	— .06	.0311	.....	.....	74.4
65	4..	11.1	2.6	13.7	15.5	+ 1.8	.65	.46	1.11	1.36	+ .25	.0305	.....	.....	.....
66	5..	12.6	2.6	15.2	16.2	+ 1.0	.86	.46	1.32	1.40	+ .08	.0341	.....	.....	.....
67	6..	10.6	2.6	13.2	16.1	+ 2.9	.81	.46	1.27	1.37	+ .10	.0323	.....	.....	.....
68	7..	11.3	2.6	13.9	17.1	+ 3.2	.74	.46	1.20	1.49	+ .29	.0294	.....	.....	.....
69	8..	12.5	2.6	15.1	17.3	+ 2.2	.88	.46	1.34	1.70	+ .36	.0291	.....	.....	.....
70	9..	12.0	2.6	14.6	16.7	+ 2.1	.88	.46	1.34	1.42	+ .08	.0336	.....	.....	.....
71	10..	10.1	2.6	12.7	15.3	+ 2.6	.61	.46	1.27	1.32	+ .05	.0275	.....	.....	74.9
72	11..	11.8	2.6	14.4	16.2	+ 1.8	.62	.46	1.08	1.38	+ .30	.0306	.....	.....	.....
73	12..	11.1	2.6	13.7	16.1	+ 2.4	.63	.46	1.09	1.44	+ .35	.0359	.....	.....	.....
74	13..	12.6	2.6	15.2	16.2	+ 1.0	.90	.46	1.36	1.37	+ .01	.0324	.....	.....	.....
75	14..	11.8	2.6	14.4	16.9	+ 2.5	.92	.46	1.38	1.52	+ .14	.0342	.....	.....	.....
76	15..	12.5	2.6	15.1	17.6	+ 2.5	.86	.46	1.32	1.67	+ .35	.0335	.....	.....	.....
77	16..	11.7	2.6	14.3	16.5	+ 2.2	.88	.46	1.34	1.42	+ .08	.0345	.513	.....	.....
Total....		745.4	121.2	866.6	995.0	+128.4	52.05	25.54	77.59	87.91	+10.3	21.449	1.430	+0.019	.....
Average.		11.8	1.9	13.7	15.8	+ 2.1	.83	.40	1.23	1.39	+ .16	.....	.....	.....	.....

AFTER PERIOD—UNCOLORED PEAS.

78	May 17..	11.6	1.9	13.5	14.4	+ 0.9	0.92	0.35	1.27	1.30	+0.03	.....	.....	.....	74.9
79	18..	11.4	1.9	13.3	15.6	+ 2.3	.81	.35	1.16	1.37	+ .21	.....	.....	.....	.....
80	19..	10.5	1.9	12.4	14.6	+ 2.2	.81	.35	1.16	1.39	+ .23	.....	.....	.....	.....
81	20..	10.4	1.9	12.3	15.0	+ 2.7	.58	.35	.93	1.39	+ .46	.....	.....	.....	.....
82	21..	11.0	1.9	12.9	16.4	+ 3.5	.88	.35	1.23	1.49	+ .26	.....	.....	.....	.....
83	22..	10.7	1.9	12.6	16.2	+ 3.6	.91	.35	1.26	1.62	+ .36	.....	.....	.....	.....
84	23..	11.0	1.9	12.9	16.4	+ 3.5	1.00	.35	1.35	1.35	.....	.....	0.019	.....	.....
85	24..	6.1	2.3	8.4	14.7	+ 6.3	.39	.37	.76	1.30	+ .54	.....	.....	.....	75.1
86	25..	8.3	2.3	10.6	16.0	+ 5.4	.78	.37	1.15	1.38	+ .23	.....	.....	.....	.....
87	26..	12.0	2.3	14.3	15.2	+ .9	.79	.37	1.16	1.27	+ .11	.....	.....	.....	.....
88	27..	11.7	2.3	14.0	15.6	+ 1.6	.92	.37	1.29	1.32	+ .03	.....	.....	.....	.....
89	28..	12.3	2.3	14.6	16.1	+ 1.5	.99	.37	1.36	1.45	+ .09	.....	.....	.....	.....
90	29..	12.5	2.3	14.8	17.1	+ 2.3	.78	.37	1.15	1.60	+ .45	.....	.....	.....	.....
91	30..	11.9	2.3	14.2	15.7	+ 1.5	.96	.37	1.33	1.31	— .02	.....	.018	.....	75.3
Total....		151.4	29.4	180.8	219.0	+ 38.2	11.52	5.04	16.56	19.54	+2.98	.....	.037	.....	.....
Average.		10.8	2.1	12.9	15.6	+ 2.7	.82	.36	1.18	1.39	+ .21	.....	— .003	.....	.....
Grand total..		1,055.7	177.2	1,232.9	1,423.7	+190.8	74.92	36.18	111.10	126.48	+15.3	81.449	1.498	— .049	.....
Average.		11.6	1.9	13.5	15.6	+ 2.1	.82	.40	1.22	1.39	+ .17	.....	.....	.....	.....

¹ May 31.

Copper input in coppered vegetables.....	Grams.	1.449
Copper input, accidental, based on figure for copper in feces in fore period.....		.125
Copper output.....		1.574
Retention.....		1.430
		.14

CHART X.—*Examination of blood.*

SUBJECT No. 1 (E. H. B.).

Date (1911).	Average copper ingested.	Hemoglobin.	Erythrocytes.	Leucocytes.	Polynuclears.	Lymphocytes.	Large mononuclears.	Transitionals.	Eosinophiles.	Basophiles.
	<i>Grams.</i>	<i>Per ct.</i>			<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>
Mar. 4	.....	93	5,740,000	9,300	63.0	22.0	4.0	6.0	5.0	0.0
11	.....	90	5,360,000	8,900	64.0	32.0	1.5	2.0	.5	.0
20	Mar. 15-23, 0.0170..	90	5,390,000	8,700	68.0	24.5	3.5	1.5	2.0	.5
27	Mar. 24-27, sick.....	83	5,240,000	6,000	53.5	32.5	3.0	4.0	7.0	.0
Apr. 3	.....	87	5,770,000	7,300	52.5	26.0	9.0	3.0	9.0	.5
10	.....	80	4,890,000	6,600	64.0	20.5	5.5	4.5	4.5	1.0
17	.....	82	5,150,000	6,000	34.0	45.0	10.0	4.0	6.0	1.0
24	.....	86	5,000,000	6,800	46.0	36.5	5.5	4.0	7.0	1.0
May 1	.....	86	5,540,000	7,700	40.0	36.5	8.0	5.0	10.0	.5
8	.....	88	5,350,000	6,600	52.0	35.0	4.0	2.5	6.5	.0
15	May 17-21, 0.0314..	88	5,690,000	6,400	54.0	35.0	7.0	2.5	1.5	.0
22	.....	87	5,820,000	8,100	61.0	27.0	3.5	2.0	6.5	.0
30	.....	88	6,000,000	9,900	61.5	25.0	4.0	2.0	7.0	.5

SUBJECT No. 2 (M. R. B.).

Mar. 4	.....	92	5,180,000	5,600	52.0	38.0	4.0	2.0	3.0	1.0
11	.....	91	5,210,000	6,900	51.5	37.0	5.0	4.0	1.5	1.0
20	Mar. 15-Apr. 4, 0.0169.....	85	5,760,000	6,700	55.0	38.5	4.5	1.0	1.0	.0
27	.....	84	5,090,000	8,400	49.5	45.5	1.5	1.0	2.5	.0
Apr. 3	.....	83	5,550,000	17,300	70.5	18.0	8.5	2.5	.0	.5
10	.....	84	5,940,000	8,100	56.5	31.5	5.0	4.0	2.0	1.0
17	Apr. 5-18, 0.0164..	81	5,380,000	12,800	57.5	29.5	6.5	4.0	2.0	.5
24	.....	88	5,000,000	7,700	50.0	41.0	3.0	4.0	.5	1.5
May 1	Apr. 19-May 2, 0.0125.....	85	5,440,000	10,400	74.0	18.0	3.0	2.5	2.5	.0
8	.....	84	5,380,000	8,500	54.5	40.0	2.5	2.0	.0	1.0
15	May 3-16, 0.0196..	82	4,630,000	7,000	52.5	32.0	7.5	5.0	3.0	.0
22	.....	90	5,210,000	7,100	61.0	28.0	3.5	3.5	4.0	.0
30	.....	84	4,940,000	7,500	52.5	37.0	2.5	3.5	4.0	.5

SUBJECT No. 3 (O. H. C.).

Feb. 27	.....	80	5,080,000	9,800	55.0	37.0	5.0	3.0	0.0	0.0
Mar 6	.....	82	6,060,000	11,700	45.0	43.0	4.0	7.0	.0	1.0
13	.....	82	5,230,000	8,200	60.0	29.5	4.0	4.0	1.5	1.0
24	.....	84	5,410,000	7,200	56.0	32.5	6.0	3.5	1.5	.5
31	.....	83	5,750,000	11,300	70.0	20.75	2.5	4.0	2.0	.75
Apr. 7	Mar. 28-Apr. 11, 0.0167.....	87	5,720,000	8,300	65.5	23.5	3.5	5.0	2.5	.0
14	.....	85	5,290,000	6,600	69.5	23.5	2.5	3.0	1.0	.5
21	Apr. 12-25, 0.0142..	90	5,690,000	11,300	73.0	19.0	4.0	3.5	.0	.5
29	.....	86	5,520,000	8,300	46.5	44.0	4.0	1.0	4.5	.0
May 4	Apr. 26-May 2, 0.0126.....	87	6,030,000	9,500	53.0	38.5	4.5	1.0	2.5	.5
12	May 3-16, 0.0196..	90	5,650,000	10,000	53.5	37.5	4.0	1.5	3.5	.0
19	.....	86	5,180,000	7,900	63.0	26.5	3.5	3.0	3.5	.5
26	.....	89	5,700,000	7,600	59.0	32.0	5.5	2.0	1.5	.0

SUBJECT No. 4 (E. S. F.).

Mar. 4	.....	102	6,590,000	12,100	79.0	16.0	2.0	2.0	0.0	1.0
11	.....	93	5,780,000	9,400	74.5	21.0	2.0	1.5	.5	.5
13	.....	88	5,930,000	9,000	64.0	32.0	.5	.5	3.0	.0
20	.....	86	5,740,000	6,000	63.0	31.0	4.5	.5	1.0	.0
27	.....	90	5,820,000	11,400	65.5	27.5	3.5	2.5	1.0	.0
Apr. 3	.....	88	5,900,000	13,300	65.0	29.0	2.0	2.5	1.0	.5
10	.....	85	5,780,000	9,900	64.5	27.5	3.0	3.0	1.5	.5
17	.....	87	5,660,000	11,300	72.0	24.5	2.0	1.0	.5	.0
24	.....	90	6,260,000	7,000	70.0	23.0	3.0	.5	3.5	.0
May 1	.....	88	6,240,000	8,700	70.5	26.0	2.0	.5	1.0	.0
8	.....	90	6,190,000	7,900	61.0	34.5	1.0	2.5	1.0	.0
15	May 17-21, 0.0314..	87	6,170,000	9,600	63.5	32.5	2.0	.5	1.5	.0
22	.....	92	6,460,000	8,400	72.0	24.0	3.0	.5	.5	.0
30	.....	87	6,180,000	7,900	63.5	33.5	1.0	1.5	.5	.0

CHART X.—*Examination of blood*—Continued.

SUBJECT No. 5 (C. P. K.).

Date (1911).	Average copper ingested.	Hemo- globin.	Erythro- cytes.	Leuco- cytes.	Polynu- clears.	Lym- pho- cytes.	Large mono- nu- clears.	Transi- tion- als.	Eo- sino- philes.	Baso- philes.
	<i>Grams.</i>	<i>Per ct.</i>			<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>
Mar. 4	.....	88	5,180,000	6,200	68.0	27.0	2.0	2.0	0.0	1.0
11	.....	89	5,280,000	7,400	62.0	34.5	1.0	1.5	.5	.5
20	.....	84	5,790,000	5,400	63.5	30.0	2.0	2.5	1.5	.5
27	.....	80	5,110,000	8,200	74.0	19.5	.5	4.5	1.0	.5
Apr. 3	Mar. 15-Apr. 4, 0.0169.....	86	5,870,000	8,500	78.0	13.5	6.5	1.5	.5	.0
10	.....	83	5,240,000	8,500	69.0	25.0	4.5	.5	.5	.5
17	Apr. 5-20, 0.0217...	86	4,910,000	6,500	60.5	25.5	5.0	4.5	4.5	.0
24	Apr. 21-25, sick.....	84	5,120,000	9,200	76.0	13.0	6.5	3.5	1.0	.0
May 1	Apr. 26-May 2, 0.0251.....	84	5,120,000	7,800	74.0	20.5	3.0	1.0	1.0	.5
8	.....	82	5,190,000	11,100	77.0	16.5	4.0	1.0	1.5	.0
15	May 3-16, 0.0321...	84	5,090,000	7,400	71.5	18.0	6.5	3.0	1.0	.0
22	.....	86	5,660,000	8,800	73.0	17.5	5.0	2.5	2.0	.0
30	.....	83	4,720,000	8,900	77.5	14.5	4.0	1.5	2.0	.5

SUBJECT No. 6 (W. C. T.).

Feb. 27	.....	82	5,260,000	12,300	64.0	19.0	2.0	3.0	12.0	0.0
Mar. 6	.....	75	5,150,000	8,900	44.0	37.0	1.0	3.0	14.0	1.0
13	Mar. 14-21, sick.....	80	4,870,000	7,000	53.5	32.5	2.5	1.5	10.0	.0
22	.....	68	5,240,000	12,700	66.5	20.5	3.5	2.0	7.0	.5
24	.....	65	4,430,000	12,100	63.0	29.0	2.5	2.5	3.0	.0
31	.....	78	4,330,000	10,300	57.0	31.0	2.5	3.0	4.5	2.0
Apr. 7	Mar. 22-Apr. 4, 0.0167.....	78	4,970,000	7,900	64.0	27.5	4.0	2.5	1.5	.5
14	Apr. 5-18, 0.0164...	83	4,750,000	8,100	52.5	29.0	7.5	4.0	5.5	1.5
21	.....	82	4,880,000	10,400	70.0	22.0	1.5	1.5	4.5	.5
29	Apr. 19-May 2, 0.0125.....	81	5,240,000	8,500	49.5	36.0	3.0	2.0	8.0	1.5
May 4	.....	84	4,660,000	8,700	62.6	27.3	3.3	.3	6.0	1.3
12	May 3-16, 0.0196...	86	4,980,000	5,500	52.0	37.0	4.0	3.0	4.0	.0
19	.....	82	4,730,000	8,400	59.5	32.5	2.0	.5	5.0	.5
26	.....	84	5,040,000	7,800	56.5	33.5	4.0	2.0	4.0	.0

SUBJECT No. 7 (J. F. W.).

Feb. 27	.....	80	6,060,000	8,300	63.0	25.0	4.0	4.0	3.0	1.0
Mar. 6	.....	76	5,200,000	8,800	51.0	40.0	5.0	3.0	1.0	.0
13	.....	80	5,380,000	9,300	51.0	40.5	3.5	3.5	1.0	.5
24	.....	84	5,290,000	9,300	56.5	33.0	6.0	2.5	1.5	.5
31	Mar. 15-Apr. 4, 0.0169.....	78	5,650,000	6,800	58.0	29.0	5.0	5.5	1.5	1.0
Apr. 7	.....	84	4,930,000	6,400	54.0	35.5	6.5	1.5	1.0	1.5
14	Apr. 5-19, 0.0217...	87	6,150,000	9,100	53.5	34.0	4.0	6.5	2.0	.0
21	.....	84	4,850,000	9,200	57.5	30.0	6.0	5.5	1.0	.6
29	Apr. 20-May 2, 0.0245.....	83	5,250,000	7,800	46.5	43.5	6.5	2.0	1.5	.0
May 4	.....	85	5,130,000	9,300	62.0	25.0	6.0	5.0	1.5	.5
12	May 3-16, 0.0344...	84	4,620,000	6,700	48.5	39.0	7.0	1.5	3.5	.5
19	.....	85	4,640,000	5,700	58.0	35.0	4.5	1.5	1.0	.0
26	.....	82	5,110,000	7,100	63.0	29.5	5.5	1.0	1.0	.0

SUBJECT No. 8 (M. W.).

Feb. 27	.....	74	4,520,000	7,600	59.0	33.0	4.0	4.0	0.0	0.0
Mar. 6	.....	80	4,900,000	9,500	53.0	35.0	6.0	2.0	3.0	1.0
13	.....	76	5,150,000	10,500	65.0	31.5	1.5	.5	1.5	.0
24	.....	80	4,900,000	8,700	58.0	36.0	2.5	1.0	2.0	.5
31	Mar. 15-Apr. 4, 0.0169.....	87	5,560,000	7,200	50.5	41.0	7.0	.5	1.0	.0
Apr. 7	.....	85	4,800,000	6,500	65.0	29.5	3.5	1.5	.5	.0
14	Apr. 5-19, 0.0217...	82	4,960,000	8,500	55.0	41.0	2.5	.5	.5	.5
21	.....	83	5,170,000	7,500	55.5	36.0	3.0	3.5	1.0	1.0
29	Apr. 20-May 2, 0.0245.....	80	4,500,000	6,100	55.5	34.0	5.0	3.5	2.0	.0
May 4	.....	83	5,320,000	5,900	54.5	38.0	4.0	1.5	2.0	.0
12	May 3-16, 0.0321...	83	5,220,000	7,400	62.5	30.0	2.0	3.0	1.5	1.0
19	.....	83	5,170,000	4,100	56.5	37.5	2.0	1.5	1.5	1.0
26	.....	82	5,750,000	7,500	44.5	51.5	2.5	.0	1.0	.5

CHART XI.—*Clinical examination of urine.*

SUBJECT No. 1 (E. H. B.).

Date (1911).	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferricyanide test.		Hyaline.	Granular.						
Mar. 1	Gram.						Few....			O c c a - sional.		Mucus.
2							do....		Few....	Few....	Few....	Mucus, spermatozoa, bacilli.
3							do....			Very few		Mucus.
4							do....					
5							Present.		few....	Few....		Mucus, bacteria.
6							Few....		do....	Very few		Do.
7							do....			Few....		
8							Present.			do....		Mucus.
9							Present.			Very few		
10							Few....			do....		Do.
11							do....			do....		
12							do....			do....		Do.
13							do....		Few....	do....		
14							do....			do....		
15	0.0171						do....		do....	do....		Do.
16	.0180						do....		do....	do....		Mucus, bacteria.
17	.0191						do....			do....		Mucus.
18	.0164						Few....			do....		Do.
19	.0168						do....			do....		Amorphous urates.
20	.0165						do....		Few....	do....		Mucus, bacteria.
21	.0179						do....			do....		Mucus.
22	.0165						Present.		Present.	do....		Spermatozoa, mucus.
23							Few....			do....		Bacteria.
28							Present.			do....		
29							do....			do....		Mucus.
30							Few....			do....		
31							Many....			do....		
32							Few....			do....		
33							do....		Few....	do....		Bacteria..
34							do....		do....	do....		Do.
35							do....		do....	do....		Do.
36							Present.		do....	do....		Do.
37							do....		do....	do....		

Apr.

CHART XI.—*Clinical examination of urine*—Continued.
SUBJECT No. 1—Continued.

Date (1911).	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferrocyanide test.		Hyaline.	Granular.						
	<i>Grav.</i>						Present.			Few.		Bacteria.
Apr. 8							do.			do.		Do.
9							do.		Few.	do.		Do.
10							do.		do.	do.		
11							do.		do.	do.		
12							do.		do.	do.		
13							Few.		do.	do.		Bacteria, triple phosphates.
14		Trace.					Present.	Few.	do.	do.		Bacteria, spermatozoa.
15							do.		do.	do.		Bacteria.
16							do.		do.	do.		Few bacteria.
17							Few.		do.	do.		Mucus.
18							Present.		do.	do.		
19							do.		do.	do.		
20							do.		do.	do.		
21							do.		do.	do.		
22							Few.		do.	do.		
23							Present.		do.	do.		
24							do.		do.	do.	Few.	
25							do.		do.	do.		
26							Few.		do.	do.		
27							Present.		do.	do.		
28							do.		do.	do.		
29					One.		Present.		do.	do.	Present.	
30							do.		do.	do.	do.	
May 1							Few.		do.	do.		
2							do.		do.	do.		
3							Few.		do.	do.		
4							Present.		do.	do.	Present.	
5							do.		do.	do.		
6							do.		do.	do.	Present.	
7							do.		do.	do.	do.	
8							do.		do.	do.	do.	
9							do.		do.	do.	Present.	
10							do.		do.	do.	do.	
11							do.		do.	do.	do.	
12							do.		do.	do.	do.	
13							do.		do.	do.	do.	
14							do.		do.	do.	Few.	
							do.		do.	do.	Present.	

16					.do.	Few.....	.do.	Present	Bacteria.
17	.0314				.do.	.do.	.do.	Few.....	Bacteria, spermatozoa.
18	.0314				.do.	.do.	.do.	Present	Bacteria.
19	.0314				.do.	.do.	.do.	Few.....	Do.
20	.0314				.do.	.do.	.do.	.do.	Do.
21	.0314				.do.	.do.	.do.	.do.	Do.
22					.do.	.do.	.do.	Present	
23					.do.	.do.	.do.	.do.	Do.
24					.do.	.do.	.do.	.do.	Do.
25					.do.	.do.	.do.	.do.	Do.
26					.do.	.do.	.do.	Present	Amorphous phosphates.
27					.do.	.do.	.do.	Few.....	
28					.do.	.do.	.do.	Present	Do.
29					.do.	.do.	.do.	.do.	Triple and amorphous phosphates.
30					.do.	.do.	.do.	.do.	

SUBJECT No. 2 (M. R. B.).

[illegible]

CHART XI.—*Clinical examination of urine*—Continued.

SUBJECT No. 2—Continued.

Date (1911).	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferrocyanide test.		Hyaline.	Granular.						
Mar. 29	Gram.											
30	0.0186				Very few		Few		Few	Few	Few	Amorphous phosphates. Do.
31	0.0176				Few		do.		Few	do.	do.	Amorphous phosphates. Spermatozoa, mucus. Amorphous and triple phosphate.
Apr. 1	0.0180				do.	Few	Present		Present	do.	do.	
2	0.0167				do.		Few		Few	do.	do.	
3	0.0147	Positive.			do.		do.		do.	do.	do.	
4	0.0146				do.		do.		do.	do.	do.	
5	0.0164				Few		Present		do.	do.	Few	Bacteria.
6	0.0182				do.		do.		do.	do.	Few	Do.
7	0.0170				do.		do.		do.	do.	do.	Uric acid.
8	0.0158				do.		Few		do.	do.	do.	Mucus, spermatozoa.
9	0.0177				do.		Present		Present	do.	do.	
10	0.0156				Few	Few	Few		Few	do.	do.	Bacteria.
11	0.0174				do.		Present		Present	do.	do.	Do.
12	0.0176				do.		do.		Few	do.	do.	Mucus, spermatozoa, bacteria.
13	0.0173				do.		do.		Few	do.	do.	
14	0.0164				do.		do.		Present	do.	do.	
15	0.0140				do.		do.		Few	do.	do.	
16	0.0152				do.		do.		do.	do.	do.	
17	0.0143						do.		do.	do.	do.	
18	0.0164						do.		do.	do.	do.	
19	0.0159						do.		do.	do.	do.	
20	0.0119						do.		Few	do.	do.	
21	0.0117						do.	Few	Present	do.	do.	
22	0.0122						do.		do.	do.	do.	
23	0.0102						do.		Few	do.	do.	
24	0.0125						do.		do.	do.	do.	
25	0.0129				Few		Few		Few	do.	do.	
26	0.0128						do.		do.	do.	do.	
27	0.0144						Present		Few	do.	do.	
28	0.0089				One.	One.	do.		do.	do.	do.	
29	0.0138				One.		do.		do.	do.	do.	
30	0.0132	Trace.	Trace.				do.		do.	do.	do.	Uric acid.
May 1	0.0111						do.		do.	do.	do.	
2	0.0138						do.		do.	do.	do.	
3	0.0193						Few		do.	do.	do.	

		Trace.	Trace.	Present.	Present.	Present.	Present.	
4	.0182			do.	Few.	Few.	Few.	Mucus, spermatozoa.
5	.0206			do.	do.	do.	do.	
6	.0199			do.	do.	do.	do.	Spermatozoa.
7	.0179			Present.	do.	do.	do.	Bacteria.
8	.0182			do.	do.	do.	do.	
9	.0198			do.	do.	do.	do.	Present.
10	.0175			do.	do.	do.	do.	Spermatozoa, mucus.
11	.0189			do.	do.	do.	do.	
12	.0214			Few.	do.	do.	do.	Present.
13	.0201			Present.	do.	do.	do.	
14	.0207			Few.	Few.	Few.	Few.	
15	.0202		Few.	Present.	Few.	Few.	Few.	
16	.0210			Few.	do.	do.	do.	
17				Present.	do.	do.	do.	Bacteria, spermatozoa.
18				do.	do.	do.	do.	
19				Few.	do.	do.	do.	Mucus, spermatozoa.
20				Present.	do.	do.	do.	
21				do.	do.	do.	do.	
22				do.	do.	do.	do.	Present.
23				do.	do.	do.	do.	
24				do.	do.	do.	do.	
25				do.	do.	do.	do.	Spermatozoa.
26				do.	do.	do.	do.	
27				do.	do.	do.	do.	
28				do.	do.	do.	do.	Present.
29				do.	Few.	do.	do.	
30				do.	do.	do.	do.	Present.

SUBJECT No. 3 (O. H. C.).

Mar.									
1				Present.	Few.	Few.	Very few	Present.	Mucus.
2				Few.		Few.	Few.	Very many.	Do.
3								Few.	Do.
4								Present.	Do.
5				Present.		Few.	do.	Calc. Ox.	Do.
6				Many.		do.	do.	Many.	Mucus, bacteria.
7				Few.		Very few	Very few	Few.	
8				do.		Few.	Few.	Present.	
9				do.		do.	do.	do.	Mucus.
10	Present.			Present.		Few.	do.	Few.	Do.
11				Few.		do.	do.	Present.	Spermatozoa.
12				do.		do.	do.	do.	Mucus.
13						do.	do.	Few.	
14				Few.		do.	do.	do.	Do.
15				do.		do.	do.	Many.	Do.
16				do.		do.	do.	Present.	Do.
17				do.		Few.	Few.	do.	Do.
18				Present.		do.	do.	Few.	

CHART XI.—*Clinical examination of urine*—Continued.
SUBJECT No. 3—Continued.

Date (1911).	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferrocyanide test.		Hyaline.	Granular.						
Mar. 19							Many.			Few.		Mucus.
20							Present.			Present.		Do.
21							do.			Few.		Do.
22							do.			Present.		Do.
23										do.		Mucus, spermatozoa.
24							Present.			do.		Mucus.
25							Few.			do.		Bacteria.
26							Present.			do.		Mucus, spermatozoa.
27							do.			do.		Do.
28	0.0173						do.			do.		Mucus, spermatozoa.
29	.0186						Present.			do.		Do.
30	.0156						Few.			Few.		Do.
31	.0176						do.			do.		Mucus.
Apr. 1	.0180						Few.			do.		Do.
2	.0167						do.			do.		Bacteria.
3	.0147						Few.			do.		Do.
4	.0146				Few.		Present.			do.		Do.
5	.0164						Few.			do.		Spermatozoa, bacteria.
6	.0182						do.			Few.		Bacteria.
7	.0170						do.			do.		Do.
8	.0158						do.			do.		Spermatozoa, bacteria.
9	.0177						do.			Few.		Bacteria.
10	.0156						do.			do.		Do.
11	.0174						do.			do.		Mucus, spermatozoa, bacteria.
12	.0176						Present.			do.		Bacteria.
13	.0173						Few.			Present.		Do.
14	.0164						do.			do.		Mucus, spermatozoa, bacteria.
15	.0152						Present.			do.		Bacteria.
16	.0143						do.			Few.		Do.
17	.0164						do.			do.		Do.
18	.0159						Few.			do.		Bacteria, few.
19	.0119						Present.			do.		Mucus.
20	.0117						do.			do.		Few Bacteria.
21	.0117						do.			do.		Bacteria.
22	.0122				Few.		do.			do.		Do.
23	.0102						Few.			do.		

24	.0125			do	Few	do	Few	Do.
25	.0120			Present	do	do	Present	Mucous, spermatozoa.
26	.0128			Few	do	do	do	Bacteria.
27	.0144			do	do	do	do	
28	.0089							
29	.0138	Present		Present	Few	do	Present	Do.
30	.0132			Few	do	do	Few	
1	.0111			Present	do	do	do	
2	.0138			do	do	do	do	
3	.0193			do	do	do	do	
4	.0182			do	Few	do	Present	Spermatozoa.
5	.0206	Few		do	Present	do	Present	Bacteria.
6	.0199	do		do	Few	do	Few	Mucous.
7	.0179			do	do	do	do	
8	.0182			Present	do	do	do	
9	.0198	Very few		do	do	do	do	
10	.0175			do	do	do	do	
11	.0189			do	do	do	do	Bacteria.
12	.0214			do	do	do	do	Do.
13	.0201			Few	do	Present	Present	
14	.0207	Few		do	Present	do	Few	
15	.0202			Few	do	do	do	Bacteria, spermatozoa.
16	.0210			do	do	do	do	
17				do	do	do	do	Bacteria.
18		Few		do	do	do	Few	Do.
19		do		do	Few	do	do	Do.
20				do	do	do	do	Spermatozoa.
21		Few		do	do	do	do	Bacteria.
22				do	do	do	do	Do.
23				Present	do	do	Present	
24				do	do	do	do	
25		Few		do	Few	do	Few	
26				do	do	do	do	Do.
27				Few	do	do	Few	Do.
28		Present		Present	do	do	do	Do.
29		do		do	do	do	do	
30				do	do	do	Present	

SUBJECT No. 4 (E. S. F.).

[illegible]

CHART XI.—*Clinical examination of urine*—Continued.

SUBJECT No. 4—Continued.

Date (1911).	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylin- droids.	Erythro- cytes.	Pus cells.	Epithe- lial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferro- cyanide test.		Hyaline.	Granu- lar.						
Mar.	Gram.											
9					Present	Present	Present		Present	Few		Spermatozoa, mucus.
10					do		do		Many	do		Do.
11					Few		do		do	do		Spermatozoa.
12					Few	Few	Few	Few	do	do		Do.
13					do		do		do	do	Few	Spermatozoa, mucus.
14			? Trace.		do		Many		do	do		Do.
15					do		Few		Present	do		Do.
16					do		do		Many	do		Few spermatozoa, mucus.
17					do		do		Present	do		Spermatozoa, mucus.
18					do		do		Few	do		Do.
19					do		Many		Present	do		Do.
20					do		do		do	do		Do.
21					do		do		do	do		Do.
22					do		Few		do	do		Do.
23					Present		do		Many	do	Present	Do.
24					do		do		do	do	do	Do.
25					do		do		do	do		Do.
26					Few		do		do	do		Do.
27					do		do		do	do		Do.
28					do		do		Many	do		Do.
29					Present		do		Few	do	Few	Do.
30					do		do		do	do		Do.
31		Positive	Positive		do		Few		Present	do		Do.
1		do			do		Few		do	do		Do.
2		do			do		do		do	do		Spermatozoa, bacteria.
3					Present		Present		do	do	Present	Mucus, spermatozoa, uric acid.
4					Few		do		do	do		Spermatozoa, mucus.
5					Present		Few		Few	do		Do.
6					Few		Present		Few	do		Spermatozoa, few bacteria.
7					do		Few		do	do		Spermatozoa.
8					do		do		do	do		Spermatozoa.
9					do		do		do	do		Spermatozoa, mucus.
10					Present		Present	Few	Present	do		Spermatozoa, mucus, uric acid.
11		Positive	Positive		do		do		do	do		Do.
12		do	do		do		do		do	do		Do.
13		do	do		Few		do		do	do		Spermatozoa, bacteria.
14					do		Few		Few	do		

15	Present	Few	Present	do	do	Spermatozoa, bacteria, mucus.
16	Few	do	do	Present	do	Do.
17	Present	do	do	do	do	Spermatozoa, mucus.
18	do	do	do	do	do	Do.
19	do	do	do	do	do	Do.
20	do	do	do	do	do	Bacteria.
21	do	do	do	do	do	Spermatozoa, mucus.
22	do	do	do	do	do	Do.
23	do	do	do	do	do	Do.
24	do	do	do	do	do	Do.
25	do	do	do	do	do	Few
26	do	do	do	do	do	Bacteria.
27	do	do	do	do	do	Few spermatozoa.
28	do	do	do	do	do	Spermatozoa.
29	do	do	do	do	do	Spermatozoa, mucus.
30	do	do	do	do	do	Spermatozoa, bacteria.
1	do	do	do	do	do	Bacteria.
2	do	do	do	do	do	Spermatozoa, mucus.
3	do	do	do	do	do	Spermatozoa.
4	do	do	do	do	do	Few spermatozoa.
5	do	do	do	do	do	Spermatozoa, mucus.
6	do	do	do	do	do	Few spermatozoa.
7	do	do	do	do	do	Spermatozoa.
8	do	do	do	do	do	Spermatozoa, mucus.
9	do	do	do	do	do	Spermatozoa, bacteria.
10	do	do	do	do	do	Spermatozoa, mucus.
11	do	do	do	do	do	Do.
12	do	do	do	do	do	Spermatozoa.
13	do	do	do	do	do	Few spermatozoa.
14	do	do	do	do	do	Spermatozoa.
15	do	do	do	do	do	Spermatozoa, bacteria.
16	do	do	do	do	do	Spermatozoa, mucus.
17	do	do	do	do	do	Spermatozoa.
18	do	do	do	do	do	Few spermatozoa.
19	do	do	do	do	do	Spermatozoa.
20	do	do	do	do	do	Spermatozoa, bacteria.
21	do	do	do	do	do	Spermatozoa, mucus.
22	do	do	do	do	do	Spermatozoa, bacteria.
23	do	do	do	do	do	Few spermatozoa.
24	do	do	do	do	do	Spermatozoa.
25	do	do	do	do	do	Bacteria.
26	do	do	do	do	do	Spermatozoa, mucus.
27	do	do	do	do	do	Spermatozoa.
28	do	do	do	do	do	Spermatozoa, mucus.
29	do	do	do	do	do	Spermatozoa, bacteria.
30	do	do	do	do	do	Bacteria.

May

CHART XI.—*Clinical examination of urine*—Continued.
SUBJECT No. 5 (C. P. K.).

Date (1911).	Copper in gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferro- cyanide test.		Hyaline.	Granular.						
Mar.	Gram.											
1							Few....		Few....	Few....	Few....	Mucus.
2							do....		do....	do....	Very few	Do.
3							Many..		Few....	Very few		Mucus, bacteria.
4							Present		do....			Bacteria.
5									do....			Bacteria, mucus.
6										Few....		Mucus.
7										do....		Do.
8							Present			do....		
9							do....		Few....	do....		
10							do....		Few....	do....		
11							do....		Few....	do....		
12							Few....		Few....	do....		Do.
13							do....		Few....	do....		Do.
14							do....		Few....	do....		
15	0.0171						Many..		Present	do....		
16	0.0180						Few....		Few....	do....		
17	0.0191						Many..		do....	Few....		
18	0.0164						do....		do....	do....		
19	0.0168						do....		do....	do....		
20	0.0165						do....		do....	do....		
21	0.0179						Few....		do....	do....	Few....	
22	0.0165						Present		Few....	do....		
23	0.0147						Few....		do....	do....		
24	0.0170						do....		do....	do....	Present	Triple and amorphous phosphates.
25	0.0179						Very many.		do....	do....		
26	0.0183	Positive.	Positive.				Present.		do....	do....		Mucus.
27	0.0162						Very many.		do....	do....	Few....	
28	0.0173						Present.		do....	do....		
29	0.0186						Few....		do....	do....		
30	0.0156						do....		do....	do....		
31	0.0176						do....		Few....	do....		Spermatozoa, mucus.
Apr. 1	0.0180						Present		do....	do....		
2	0.0167						do....		do....	do....		
3	0.0147						do....		do....	do....		Bacteria.
4	0.0146						do....		do....	do....		Do.
5	0.0218						do....		Few....	do....		

[illegible]

CHART XI.—*Clinical examination of urine*—Continued.

SUBJECT No. 6 (W. C. T.).

Date (1911).	Copper In- gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferro- cyanide test.		Hyaline.	Granular.						
Mar.	Gram.											
1							Few		Few	Few	Few	Mucus.
2							do	Few		do	do	Bacilli.
3							do		Few	do	do	Spermatozoa, mucus.
4							do			Very few	do	Bacteria.
5							Present		Few	Few	Present	Bacteria, mucus.
6							Many		do	Very few	do	Bacteria.
7							Present		do	Few	Present	Bacteria.
8							Few			do	do	
9							do		Few	Few	Few	
10							do		Few	do	Present	
11							do		Few	do	do	
12							do		do	do	do	
13							Few		do	do	do	Mucus.
22	0.165						do		do	do	Many	
23	.0147				Few		do		do	do	Very many.	
24	.0170						Present		Few	do	Present	
25	.0179						do		do	do	do	
26	.0183						Few		do	do	do	
27	.0162						do		do	do	Few	
28	.0173						do		do	do	Present	
29	.0186						do		do	do	Very many.	
30	.0156						do		Few	do	Few	
31	.0176						do		do	do	Many	
Apr. 1	.0180						do		do	do	do	Spermatozoa, mucus.
2	.0167						Present		Present	do	Bacteria.	
3	.0147						Few			do	Very many.	
4	.0146						do		do	do	do	
5	.0164						do		do	do	do	
6	.0182						Present		do	do	do	
7	.0170						do		Few	do	Present	Do.
8	.0158						do		do	do	do	Spermatozoa, bacteria.
9	.0177						do		do	do	do	Bacteria.
10	.0156						Present		Few	do	Few	Do.

[illegible]

CHART XI.—*Clinical examination of urine*—Continued.

SUBJECT No. 7 (J. F. W.).

Date (1911).	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylin- droids.	Erythro- cytes.	Pus cells.	Epithe- lial cells.	Oxalates.	Other sediments.
		Haller's test.	Ferro- cyanide test.		Hyaline.	Granu- lar.						
Mar.	Gram.											
1							Many			Few	Very few	Uric acid, few bacilli
2							Few		Few	do		Triple phosphates
3							do			do		Bacteria, triple phosphates
4							do		Present	Very few		Mucus, bacteria, triple phosphates.
5			Trace				Present		Few	Few	Many	
6			? Trace				Many		do	do	Few	
7							Few		do	do		Triple phosphates.
8							Present		do	do	Few	Do.
9					One		Few		do	do		
10							Very few		Few	do	Present	Do.
11							Present		do	do	Present	Mucus.
12							Few		do	do		Uric acid.
13					Few		do		do	do		
14							do		do	do		
15	0.0171						do		do		Few	Triple phosphates.
16	0.0180						do		do	do	do	Do.
17	0.0191						do		do	Few	Present	Do.
18	0.0164						do		do	do		Do.
19	0.0168						do		Few	do		Do.
20	0.0165						do		Present	do		Do.
21	0.0179						do		do	do		Do.
22	0.0165						do		do	do		Do.
23	0.0147						do		do	do		Do.
24	0.0170		Present				Present		Few	do		Do.
25	0.0179		Very few				Very few		do	do	Few	Do.
26	0.0183		Present				Few		Few	do		Bacteria, triple phosphates.
27	0.0162						do		do	do		Triple phosphates.
28	0.0173						do		Present	do		Do.
29	0.0186						do		Few	do		Do.
30	0.0156						do		do	do		Do.
31	0.0176						do		do	do		Do.
Apr.							Very few		do	do		Do.
1							do		do	do		Do.
2							do		do	do		Do.
3	0.0167						Few		Few	do		Do.
4	0.0146						Present		do	do		Do.
5	0.0218						do		Few	do		Do

May

6	.0242	.....	.....	.....	Few	.....	do	.....	Few	Few bacteria.
7	.0226	.....	.....	.....	Present	.....	do	.....	do	Triple phosphates
8	.0210	.....	.....	.....	Few	.....	do	.....	do	Uric acid.
9	.0236	.....	.....	.....	do	.....	do	.....	do	Bacteria, triple phosphates.
10	.0208	.....	.....	.....	do	.....	Few	.....	Few	Triple phosphates.
11	.0232	.....	.....	.....	do	.....	do	.....	do	Uric acid.
12	.0234	.....	.....	.....	do	.....	do	.....	do	Triple phosphates.
13	.0230	.....	.....	.....	do	.....	do	.....	do	Do.
14	.0218	.....	.....	.....	Present	.....	Few	.....	do	Spermatozoa, bacteria.
15	.0186	.....	.....	.....	Few	.....	do	.....	do	Bacteria.
16	.0202	.....	.....	.....	do	.....	Few	.....	do	Few bacteria.
17	.0190	.....	.....	.....	do	.....	do	.....	do	Triple phosphates.
18	.0218	.....	.....	.....	Present	.....	Few	.....	do	Do.
19	.0212	.....	.....	.....	Few	.....	do	.....	do	Do.
20	.0237	.....	.....	.....	Present	.....	Few	.....	do	Triple phosphates.
21	.0234	.....	.....	.....	Few	.....	do	.....	do	Do.
22	.0243	.....	.....	.....	do	.....	do	.....	do	Do.
23	.0204	.....	.....	.....	do	.....	Few	.....	do	Spermatozoa, mucus.
24	.0240	.....	.....	.....	do	.....	do	.....	do	Do.
25	.0258	.....	.....	.....	do	.....	Few	.....	do	Spermatozoa.
26	.0255	.....	.....	.....	do	.....	do	.....	do	Triple phosphates.
27	.0288	.....	.....	.....	do	.....	do	.....	do	Do.
28	.0177	.....	.....	.....	Present	.....	do	.....	do	Do.
29	.0276	Positive.	.....	Few	.....	.....	do	.....	do	Do.
30	.0264	.....	.....	.....	do	.....	Few	.....	do	Present.
1	.0222	.....	.....	.....	Few	.....	do	.....	do	Do.
2	.0276	.....	.....	.....	do	.....	do	.....	do	Present.
3	.0335	.....	.....	.....	do	.....	Few	.....	do	Do.
4	.0324	.....	.....	.....	do	.....	do	.....	do	Do.
5	.0364	.....	.....	.....	do	.....	do	.....	do	Do.
6	.0347	.....	.....	.....	do	.....	Few	.....	do	Bacteria.
7	.0315	.....	.....	.....	do	.....	do	.....	do	Triple phosphates.
8	.0315	.....	.....	.....	do	.....	do	.....	do	Do.
9	.0356	.....	.....	.....	do	.....	Few	.....	do	Do.
10	.0299	.....	.....	.....	Present	.....	do	.....	do	Do.
11	.0330	.....	.....	.....	Few	.....	do	.....	do	Do.
12	.0381	.....	.....	.....	do	.....	do	.....	do	Do.
13	.0350	.....	.....	.....	Present	.....	Few	.....	do	Do.
14	.0366	.....	.....	.....	Few	.....	do	.....	do	Do.
15	.0357	.....	.....	.....	Present	.....	Few	.....	do	Do.
16	.0370	.....	.....	.....	Few	.....	do	.....	do	Do.
17	.....	.....	.....	.....	do	.....	do	.....	do	Do.
18	.....	.....	.....	.....	Present	.....	do	.....	do	Do.
19	.....	.....	.....	.....	do	.....	do	.....	do	Do.
20	.....	.....	.....	.....	do	.....	do	.....	do	Do.
21	.....	.....	.....	.....	Few	.....	do	.....	do	Do.
22	.....	Positive.	.....	Present	Present	.....	do	.....	do	Do.
23	.....	Positive	.....	.....	Few	.....	do	.....	do	Do.
24	.....	Positive	.....	.....	Present	.....	do	.....	do	Do.
25	.....	traces.	.....	.....	do	.....	do	.....	do	Do.

CHART XI.—*Clinical examination of urine*—Continued.

SUBJECT No. 7—Continued.

Date (1911).	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferrocyanide test.		Hyaline.	Granular.						
May 26	Gram.	.....	.....	.....	.....	.....	Present	.....	Few	Few	Present	Bacteria, triple phosphates.
27	Few	.....	do	.....	do	do	.....	Bacteria.
28	do	.....	do	do	.....	Do.
29	Few	.....	do	.....	do	do	.....	Triple phosphates.
30	do	.....	do	do	.....	Do.

SUBJECT No. 8 (M. W.).

Mar.	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferrocyanide test.		Hyaline.	Granular.						
1	.....	.....	.....	.....	.....	.....	Few	.....	Few	Few	.....	Mucous.
2	.....	.....	.....	.....	.....	.....	do	.....	do	do	.....	Bacilli.
3	.....	.....	.....	.....	.....	.....	Very few	.....	.....	do	.....	.....
4	.....	.....	.....	.....	.....	.....	.....	.....	.....	do	.....	.....
5	.....	.....	.....	.....	.....	.....	Few	.....	Few	do	.....	Bacteria.
6	.....	.....	.....	.....	.....	.....	Present	.....	.....	do	.....	Do.
7	.....	.....	.....	.....	.....	.....	Few	.....	.....	do	.....	.....
8	.....	.....	.....	.....	.....	.....	Present	.....	.....	do	.....	Uric acid.
9	.....	.....	.....	.....	.....	.....	Few	.....	Few	do	.....	.....
10	.....	.....	.....	.....	.....	.....	do	.....	.....	do	.....	.....
11	.....	.....	.....	.....	.....	.....	do	.....	.....	do	.....	.....
12	.....	.....	.....	.....	.....	.....	do	.....	.....	do	.....	Uric acid.
13	.....	.....	.....	.....	.....	.....	do	.....	Few	do	.....	Do.
14	.....	.....	.....	.....	.....	.....	do	.....	.....	do	.....	.....
15	0.0171	.....	.....	.....	.....	.....	do	.....	.....	do	.....	.....
16	.0180	.....	.....	.....	.....	.....	Very few	.....	Few	do	.....	.....
17	.0191	.....	.....	.....	.....	.....	Few	.....	.....	do	.....	Mucous.
18	.0164	.....	.....	.....	.....	.....	do	.....	.....	do	.....	.....
19	.0168	.....	.....	.....	.....	.....	Many	.....	Few	Many	.....	Spermatozoa, mucus.
20	.0165	.....	.....	.....	.....	.....	Few	.....	.....	Few	.....	Mucous.
21	.0179	.....	.....	.....	.....	.....	do	.....	do	do	.....	Do.
22	.0165	.....	.....	.....	.....	.....	do	.....	do	do	.....	Do.
23	.0147	.....	.....	.....	.....	.....	Present	.....	.....	do	.....	Uric acid.
24	.0170	.....	.....	.....	.....	.....	Few	.....	.....	do	.....	Mucous.
25	.0179	.....	.....	.....	.....	.....	do	.....	Few	do	.....	.....
26	.0183	.....	.....	.....	.....	.....	do	.....	.....	do	Few	.....

27	.0162			Few	do	Few	Mucus.
28	.0173			do	do	do	do
29	.0186			Few	do	do	Amorphous phosphates.
30	.0156			do	do	do	Mucus.
31	.0176			Few	do	do	do
1	.0180			do	do	do	Mucus.
2	.0167			Few	do	do	Bacteria.
3	.0147			do	do	do	Mucus.
4	.0146			Few	do	do	Bacteria.
5	.0218			Few	do	do	Mucus.
6	.0242			do	do	do	Bacteria.
7	.0226			do	do	do	do
8	.0210	Positive trace.		do	do	do	Do.
9	.0236			do	do	do	Do.
10	.0208			Few	do	do	Amorphous phosphates.
11	.0232			do	do	do	do
12	.0234			do	do	do	do
13	.0230			Present	do	do	Bacteria.
14	.0218			Few	do	do	do
15	.0186			do	do	do	do
16	.0202			do	do	do	Do.
17	.0190			do	do	do	Do.
18	.0218			do	do	do	Uric acid.
19	.0212			do	do	do	do
20	.0237			Few	do	do	Amorphous phosphates.
21	.0234			do	do	do	do
22	.0243			do	do	do	Bacteria.
23	.0204			do	do	do	do
24	.0249			do	do	do	do
25	.0258			Few	do	do	do
26	.0255			do	do	do	do
27	.0288			do	do	do	do
28	.0177	Present		Present	do	do	do
29	.0276			do	do	do	do
30	.0264			do	do	Many	Bacteria.
1	.0222			Few	do	Few	do
2	.0276			do	do	do	do
3	.0311			do	do	do	do
4	.0305			do	do	do	do
5	.0341			do	do	do	do
6	.0323			do	do	do	do
7	.0294			do	do	do	do
8	.0291			do	do	do	do
9	.0336			do	do	do	do
10	.0275			Present	do	do	do
11	.0306			Few	do	do	do
12	.0359			do	do	do	do
13	.0324			do	do	Few	do
14	.0342			do	do	do	do
15	.0335			do	do	do	do
16	.0345			do	do	do	do

Apr.

May

CHART XI.—*Clinical examination of urine—Continued.*

SUBJECT No. 8—Continued

Date (1911).	Copper in- gested.	Albumin.		Sugar.	Casts.		Cylindroids.	Erythrocytes.	Pus cells.	Epithelial cells.	Oxalates.	Other sediments.
		Heller's test.	Ferrocyanide test.		Hyaline.	Granular.						
May 17	<i>Gram.</i>						Present.					
18							do.		Few	Few	Few	
19							do.		do.	do.	do.	
20							do.		do.	do.	do.	
21							do.		do.	do.	do.	
22							Few		do.	do.	do.	
23							do.		do.	do.	do.	
24							do.		do.	do.	do.	
25							Present		do.	do.	Present	
26							do.		do.	do.	do.	
27							do.		Few	do.	Few	
28							do.		do.	do.	do.	
29							do.		Few	do.	do.	
30							do.		do.	do.	do.	
												Mucus. Bacteria.
												Bacteria. Amorphous phosphates. Do.

INVESTIGATIONS ON THE EFFECTS OF FOODS
CONTAINING COPPER COMPOUNDS ON
THE GENERAL HEALTH AND
METABOLISM OF MAN.

By JOHN H. LONG.

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INVESTIGATIONS ON THE EFFECTS OF FOODS CONTAINING COPPER COMPOUNDS ON THE GENERAL HEALTH AND METABOLISM OF MAN.

By JOHN H. LONG.

INTRODUCTION AND PRELIMINARY CONSIDERATIONS.

That a more or less bright green color is imparted to certain vegetable substances by cooking them in copper vessels is an observation which was made many years ago in the course of the routine work of the family kitchen. While the cause of the color was doubtless known to some, it is certain that many who knew the fact were quite ignorant of the relation between the copper and the color.

As long as foods were prepared at home, and not on the factory scale, no great importance was attached to this behavior of copper. It is true that it was usually considered dangerous to allow cooked foods to become cold and stand a long time in contact with the copper vessel, but the danger here was supposed to be due to the formation, under peculiar conditions, of verdigris. This is now known to be far less toxic than it was once imagined to be, and it is likely that the cases of "verdigris" poisoning reported in the older literature should have been explained in some other way.

USE OF COPPER IN GREENING VEGETABLES.

In the development of the industrial preparation of certain vegetable foods it soon became evident that the green color might be much more quickly imparted by the addition of a small amount of a soluble copper salt, and this appeared to have a decided advantage over the use of the copper cooking vessels. This use of a copper salt, usually the sulphate, began about 60 years ago in France and has been followed to some extent there and in other countries down to the present time. It appears that this application of the sulphate was first called in question in the country where it was introduced, and the discussions regarding the physiological behavior of copper salts have more recently been carried on in other European countries and also in the United States. A voluminous but very contradictory literature has grown up, from which it is evident that the question of physiological action must be regarded as still unsettled.

The practice of using copper salts in the greening of vegetables never made much headway in the United States, and at the present time few, if any, of our canners follow it. It seems to be true that copper vessels are still employed here to some extent, because of their color-imparting power, but careful inquiry has convinced me that the use of the soluble salts has been practically abandoned. The amount of metal which may be taken up from copper vessels is small, but, by the addition of the sulphate, peas, for example, may take up several hundred milligrams per kilogram. Analyses of coppered peas show, usually, from 50 to 100 milligrams. In other vegetables the content is, in general, lower.

NATURAL OCCURRENCE OF COPPER IN FOODS.

It has been known for a long time that many cereals and other vegetable products take up minute quantities of copper from the soil, but the figures at one time current as to the extent of this copper assimilation were probably too high, as pointed out some years ago by Lehmann. The amount of copper in cereals seldom exceeds 2 parts in a million, or 2 milligrams per kilogram, but the values given by different analysts vary within wide limits. It is well known that certain shellfish frequently show a very appreciable copper content, and the extent of the copper absorption in the oyster has been the subject of much controversy.

METHOD OF STUDY AND PLAN OF EXPERIMENTS.

The questions submitted to this board do not appear to be concerned with this natural copper content of food, but with the small amounts added to impart color, or for other purposes. It is desired to determine the effect of such added copper on the health and nutrition of man, and what effect, if any, it may have in lowering or modifying the food value of the substances with which it may be mixed. The numerous investigations which have been carried out with a view of determining the degree of the toxicity of copper salts leave this question still in doubt. In most cases the effect on the appetite or the effect in producing nausea was studied, without any reference to questions of metabolism, and while, in some instances, rather large doses of copper salts have been given, extending over considerable periods, the administration was not accompanied by such observations as would lead to a conclusion regarding the occurrence of functional or organic changes in the subject under experiment.

It seemed necessary, therefore, in order to answer the submitted questions as to the action of copper in foods, to undertake some new experiments on lines similar to those followed in the work of the board on sodium benzoate and sulphurous acid. I have carried out such an investigation, extending over a period of four months, and in the following pages the results of the investigation will be presented.

Six young men in normal health were chosen as subjects of the studies, and the diet given these men included from day to day known amounts of copper in different combinations. At the outset copper was administered in the form of greened peas, of Belgian production, secured through a Chicago importer. Later, other forms of administration had to be adopted, for reasons which will appear in the following.

PROPOSED COPPER DOSAGE.

It was thought at the beginning of the observations that a copper dosage of the following order might be maintained, the plan being based on published statements of Lehmann regarding the amount of copper taken by himself and an assistant in observations carried out a few years ago. The program as planned contemplated the administration of copper in amounts as follows, the time being divided into 10-day periods:

	Copper daily (milligrams).
20 days (2 periods).....	0
30 days (3 periods).....	10
Do.....	20
10 days (1 period).....	0
Do.....	60
Do.....	100

It was thought possible that the smaller doses might be given in the pea combination, while a copper-protein compound would supply the larger amounts. The variations in this program, made necessary by actual trial, are shown in a table to be given shortly. In this table of proposed dosage an amount of copper from 10 to 15 milligrams daily is considered as the maximum small dose.

As in the work on sulphur, the daily diet was kept as near to a normal one as possible, with no effort to force the men to either a high or low protein consumption. The food charts will show how this idea was carried out. The men under observation were housed in a comfortable apartment completely under my control, and with them my chief assistant, Mr. Frank C. Gephart, lived throughout the whole time of the investigation. The cook employed to prepare the meals worked under the direction of this assistant, which insured perfect control of the dietary, and all the food consumed was weighed by him or in his presence.

The general plan of the investigation involved nitrogen and fat determinations in the diet and a considerable number of qualitative and quantitative determinations on the urine, feces, and blood. Regular clinical observations were made daily on all the men of the squad, and these were tabulated by the physician in charge of this phase of the work. The quantitative urine and feces examinations were in the immediate charge of Mr. Frank C. Gephart, while the

qualitative tests, the blood work, and the clinical records were in charge of Dr. Walter H. Buhlig, professor of clinical pathology in the Northwestern University Medical School. These men were assisted by a corps of analysts in the laboratories.

METHODS OF ANALYSIS.

The methods of analysis were in general the same as in the sulphur work.

The total nitrogen was found by the Kjeldahl-Gunning method; the urea nitrogen by the method of Benedict and Gephart, as worked out in a previous investigation in this laboratory; the ammonia, uric acid, and creatinine nitrogen by the Folin methods; the purine nitrogen by the Krueger-Schmid method.

Indican was estimated by the Folin color scale (comparison with Fehling solution).

The acidity was determined by direct titration, using phenolphthalein.

Total sulphur was estimated by the method of Benedict and Gage, as worked out in this laboratory during the benzoate investigation. The inorganic and ethereal sulphates were determined by the Folin method, and neutral sulphur by difference.

Chlorine was found by the Volhard method.

Phosphates were titrated by the uranium method, with use of cochineal as indicator.

Copper in the peas and in the feces was estimated by treating first with sulphuric acid, as in the Kjeldahl process, and subsequent precipitation as sulphide, after dilution. The sulphide was in turn converted into nitrate, oxide, and acetate, and estimated in the Dubosq colorimeter with ferrocyanide, comparison being made with a copper solution of the same acidity. In a number of cases, for control, the copper, as nitrate, was estimated by electrolysis.

MEDICAL HISTORY AND PRELIMINARY EXAMINATION OF SQUAD.

At the beginning of our work a general examination was made of the six men on the squad, and their present condition and previous record and relations were determined. A careful urine analysis was also made, which merely supplemented knowledge already in our possession, as the men had been under observation for some time. During the progress of the work one of the men dropped out and his place was taken by a new man. Hence, seven examinations are recorded.

The reasons for dropping a subject will be given under the head of discussion of the clinical findings. It was thought best to fill out the remainder of the time with a new man, beginning with a period of high dosage following a rest period for all the men.

Previous medical history.

[Statements here are as given by subject.]

Question.	Subject No. 1 (C. H. S.).	Subject No. 2A (H. W. A.).	Subject No. 2B (W. D. F.).	Subject No. 3 (J. F. J.).	Subject No. 4 (W. S. G.).	Subject No. 5 (E. J. C.).	Subject No. 6 (P. L. N.).
Age.	25.	21.	26.	25.	27.	23.	30.
Previous illnesses.	Measles when 20; cystitis 3 years ago; unknown origin; small hemorrhages from throat occasionally when raising phlegm. (Laryngologist could find nothing abnormal.)	Measles and chicken pox only when a child.	Measles and whooping cough when a child; typhoid at 14 years of age; "grippe" at 15 years.	Measles and whooping cough when a child; mumps at 17 years.	Measles in m p s, and chicken pox when a child.	Measles and chicken pox when a child.	Measles, m u m p s, and pneumonia when a child.
Medical status of parents.	Both living.	Both living and well.	Both living and well.	Father died of "cancer of kidney," mother well.	Father died of paratyphoid; mother well.	Both living and well.	Both living and well.
Medical status of maternal grandparents.	Mother died of cancer; father of pneumonia.	Father died of (?) age.	Father died at 84 of (?) ; mother died at late age of (?) .	Mother well; father died of (?)	Father and mother died of (?) .	Mother died of (?) ; father well.	Father living; mother died of (?) .
Medical status of paternal grandparents.	Both living.	Father died of erysipelas; mother died of (?) .	Nothing of importance.	Mother died at 90; father died at 60; causes (?) .	Father died of pneumonia; mother living.	Father well; mother died of tuberclosis.	Mother died of typhoid; father of apoplexy.
Other illnesses.	Mother's sister died of tuberculosis.	Nothing of importance.	Nothing of importance.	Nothing of importance.	Nothing of importance.	Nothing of importance.	Nothing of importance.
Civil condition.	Single.	Single.	Single.	Single.	Single.	Single.	Single.
Present occupation.	Medical student; news dealer.	Medical student.	Medical student.	Medical student; drug clerk at weekly intervals.	Medical student; news dealer.	Medical student; news dealer.	Medical student.
Past occupations.	Farmer; hotel clerk; school-teacher.	Painter for 2 summers; farm work.	Clerk for 2 years from 1902 on; then college student.	Railroad office as clerk; drug clerk for 6 years.	Teacher; newspaper carrier.	Farmer; newspaper carrier.	Pharmacist for 4 years.
Appetite in general.	Good.	Very good; often eats too much.	Good.	Good.	Good.	Good.	Good.
Eyesight.	do.	Good; corrected hyperopic astigmatism.	Good; corrected astigmatism.	do.	do.	do.	Do.
Hearing.	do.	Good.	Good.	do.	do.	do.	Do.
Habits:							
Tobacco.	Moderately.	Moderately.	Moderately.	No.	No.	No.	Moderately.
Alcohol.	Seldom.	No.	None.	do.	do.	do.	Beer occasionally.
Tea and coffee.	Moderately.	A little tea.	Very little coffee.	Moderately.	do.	Moderately.	Very moderately.
Drugs.	No.	No.	No.	No.	do.	No.	No.
Tendency to headaches.	do.	When he smokes too much.	do.	When catches cold or from eye strain; once a month very severe.	Nervous headache every 2 or 3 weeks.	do.	Do.

Previous medical history—Continued.

[Statements here are as given by subject.]

Question.	Subject No. 1 (C. H. S.).	Subject No. 2A (H. W. A.).	Subject No. 2B (W. D. F.).	Subject No. 3 (J. F. J.).	Subject No. 4 (W. S. G.).	Subject No. 5 (E. J. C.).	Subject No. 6 (P. L. N.).
Constipation.....	Occasionally	No.....	Slight.....	No.....	No.....	No.....	Rarely.
Diarrhea.....	No.....	do.....	No.....	do.....	do.....	do.....	No.....
Vomiting.....	do.....	do.....	do.....	Vomits when he has headache; disap- pears then.	do.....	do.....	Do.
Eruptions.....	do.....	do.....	do.....	None, except has had for a long time a generalized slight papular eruption over body; nature (?).	None, except has pityriasis rosea.	Acne only.....	Do.
Expectoration.....	do.....	No; has a little laryn- gitis when he smokes too much.	do.....	No.....	No.....	No.....	Do.
Nervousness.....	do.....	Little.....	do.....	Some.....	do.....	do.....	Do.
Insomnia.....	do.....	No.....	do.....	No.....	With nervous at- tack.	do.....	Do.
General development.	Very good.	Very good.....	Good.....	Fair.....	Fair.....	Good.....	Good.
Miscellaneous.....				Has some nausea with headaches.	Apr. 26.....	Apr. 26.....	Apr. 26.
Date of history.....	Apr. 26.....	Apr. 26.....	July 20.....	Apr. 26.....	Apr. 26.....	Apr. 26.....	Apr. 26.

Preliminary urine examinations.

	Subject No. 1 (C. H. S.).	Subject No. 2A (H. W. A.).	Subject No. 3 (J. F. J.).	Subject No. 4 (W. S. G.).	Subject No. 5 (E. J. C.).	Subject No. 6 (P. L. N.).
Date.....	Apr. 27.....	Apr. 27.....	Apr. 27.....	Apr. 27.....	Apr. 27.....	Apr. 27.....
Reaction.....	Acid.....	Acid.....	Acid.....	Acid.....	Acid.....	Acid.....
Color.....	Amber.....	Light amber.....	Amber.....	Amber.....	Amber.....	Light amber.....
Sediment.....	No.....	No.....	No.....	No.....	No.....	No.....
Specific gravity.....	1.033.....	1.016.....	1.030.....	1.020.....	1.025.....	1.028.....
Albumin.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....
Sugar.....	do.....	do.....	do.....	do.....	do.....	do.....
Acetone.....	do.....	do.....	do.....	do.....	do.....	do.....
Bile.....	do.....	do.....	do.....	do.....	do.....	do.....
Microscopic.....	2-3 w. b. c. per 1 field; Few squamous epithelial cells. Occasional mucous shred.	Few calcium oxalates. Few mucous shreds. Occasional epithelial cell.	Field packed with calcium oxalates. Few mucous shreds. Occasional w. b. c. epithelial cell.	Few calcium oxalates. Few calcium phosphates. Few mucous shreds. Occasional epithelial cell.	Many calcium oxalates. Occasional epithelial cell. Few mucous shreds.	Few epithelial cells. Few mucous shreds. Few amorphous urates. Occasional w. b. c.
Remarks.....	This was a 24-hour specimen of Apr. 26, during which time subject took sodium benzoate in strongly acid lemonade.	Single morning specimen. (First urine of No. 2B, W. D. F. examined on July 21, reported on urine chart, which see.)	Single morning specimen.	This was a 24-hour specimen of Apr. 26, during which time subject took sodium benzoate in strongly acid lemonade.	This was a 24-hour specimen of Apr. 26, during which time subject took sodium benzoate in strongly acid lemonade.	Single morning specimen.

TABLE OF DOSAGE.

A scheme of proposed copper dosage was outlined above. It is apparent that to ingest even the lowest amounts of copper with peas a highly coppered product would be desirable. A study of reports of analyses of such peas showed that the copper present may vary from about 25 milligrams to 200 or more per kilogram. The copper content of other colored vegetables was reported as less, and our own preliminary tests with string beans, lima beans, Brussels sprouts, and asparagus showed their copper content as relatively low. In order to avoid a large bulk in securing an appreciable weight of copper in the diet it was necessary to reject these products as a part of the diet.

It was not easy to secure peas of high copper content. Several brands were tried and one finally selected with a content of over 100 milligrams to the kilogram. As variations were found between individual cans, numerous analyses had to be made throughout the work. These tests were made on the peas as rewarmd and ready to serve. In the course of the diet, however, the men became tired of the peas themselves, and difficulty was found in feeding 100 grams or even less. A change was made to milk or other beverage treated with copper sulphate, and, strange as it may appear, this was much more readily tolerated. The copper-dosage table to follow will show the form in which it was administered.

Table of copper administration.

[Means in milligrams daily.]

Period.	Date.	Subject No. 1.	Subject No. 2A.	Subject No. 2B.	Subject No. 3.	Subject No. 4.	Subject No. 5.	Subject No. 6.
Fore periods, no copper:		<i>Mgs.</i>	<i>Mgs.</i>	<i>Mgs.</i>	<i>Mgs.</i>	<i>Mgs.</i>	<i>Mgs.</i>	<i>Mgs.</i>
Period 1....	May 1-10.....							
Period 2....	May 11-20.....							
First low-copper period:								
Period 3....	May 21-30.....	12.03	12.81	.....	12.71	13.01	13.16	13.57
Second low-copper period:								
Period 4....	May 31-June 9.	12.57	12.72	.....	12.98	12.72	12.79	12.86
Third low-copper period:								
Period 5....	June 10-19.....	9.64	9.97	.....	10.68	10.62	10.44	10.51
First medium-copper period:								
Period 6....	June 20-29.....	21.28	2.05	.....	21.73	21.68	22.12	22.09
Second medium-copper period:								
Period 7....	June 30-July 9.	16.42	20.50	.....	16.74	16.59	16.63	16.41
Third medium-copper period:								
Period 8....	July 10-19.....	17.85	.....	.....	17.12	17.31	17.29	17.54
No-copper period:								
Period 9....	July 20-29.....							
High-copper period:								
Period 10....	July 30-Aug. 8.	34.83	.....	34.74	34.96	34.87	35.07	35.19

Table of copper administration—Continued.

Period.	Date.	Subject No. 1.	Subject No. 2A.	Subject No. 2B.	Subject No. 3.	Subject No. 4.	Subject No. 5.	Subject No. 6.
Fourth medium-copper period: Period 11...	Aug. 9-18.....	28.00	.....	16.61	16.11	11.39	.....	28.00
	Total copper..	1,526.24	580.49	513.50	1,430.20	1,381.89	1,275.01	1,561.69
	Daily mean for 80 days...	19.08	.....	.....	17.88	17.27	¹ 15.94	19.52

¹ 18.21 for 70 days.

All the copper ingested in periods 3, 4, 5, 6, 7, and 8 was in the form of coppered peas, except in the case of subject No. 2A in the seventh period, when solution of copper sulphate in milk was given. In the sixth period this subject had copper in peas for one day only (20.50 milligrams).

In the tenth period each subject took 30 milligrams of copper daily in tea on the first, second, fifth, sixth, seventh, eighth, ninth, and tenth days of the period, and 20 milligrams daily on the third and fourth days of the period. This amounts to 280 milligrams for each man in the whole period, or a mean of 28 milligrams daily. The excess over this, as shown in the table, was given in coppered peas, and amounts to approximately 7 milligrams daily for each man.

In the eleventh period subjects Nos. 1 and 6 took all their copper in the form of copper sulphate solution in beer. They took no copper on the first and second days of the period, but each took 20 milligrams on the third day, 30 milligrams on the fourth and fifth, and 40 milligrams daily on the sixth, seventh, eighth, ninth, and tenth days of the period. This is a total of 280 milligrams for the whole time, or, distributing it through the 10 days for comparison, 28 milligrams daily.

In the same, the eleventh, period subjects Nos. 2B and 3 took their copper through eight days in peas; subject No. 4 ate coppered peas through six days. Subject No. 5 took no copper in this period.

Comments on these variations in dosage will appear later in the discussion.

FOOD CHARTS.

In the following pages the food charts are given. These show the amount and kind of food consumed by each subject through the whole period of observation—120 days. It has been said already that no effort at restriction of diet in any way was made. The food consumption was not greatly different from what the men had been accustomed to in previous investigations, and no difficulty was found in bringing them to a fairly uniform nitrogen consumption at the end of the fore periods. Judged by the standards which obtained a few

years ago, the protein consumption would be considered low, but in the light of our past experience it must be recognized as ample for men employed as the members of the squad were during the time of the investigation.

The food charts will be followed by the detailed urine and feces tables, which show the excretion for each day of the diet. The diet tables give the weights of food consumed at the three meals of a given day, while on the urine chart we have the data for the urine collected for the same day and up to 7 o'clock in the morning of the following day. This hour is before breakfast of the second day. In most cases the night urine would probably contain the last of the products of the food from the 24 hours. The feces were collected and weighed every day, but the analyses were made on the aliquots saved for a 10-day mixture, the 10-day periods being separated in the usual way by means of lampblack.

Daily food chart.

Date and kind of food.	Subject No. 1 (C. H. S.).				Subject No. 2 (H. W. A.).				Subject No. 3 (J. F. J.).				Subject No. 4 (W. S. G.).				Subject No. 5 (E. J. C.).				Subject No. 6 (P. L. N.).			
	Ether extract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.		
	Per cent	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.		
May 1, 1910.																								
Bread.....	1.67	0.78	189	3.16	1.47	198	3.31	1.54	200	3.34	1.56	187	3.12	1.46	233	3.89	1.82	80	1.34	0.62	80	1.34		
Butter.....	.13	88.08	52	.07	45.80	61	.08	53.73	35	.05	30.83	87	.11	76.63	41	.05	36.11	59	.08	51.97	59	.08		
Sugar.....			120			27			44			27			20			34			34			
Milk.....	.52	3.44	125	.65	4.30	95	.49	3.27	125	.65	4.30	125	.65	4.30	125	.65	4.30	125	.65	4.30	125	.65		
Cream.....	.40	20.14	140	.56	28.20	80	.32	16.11	140	.56	28.20	140	.56	28.20	140	.56	28.20	140	.56	28.20	140	.56		
Meat, steak.....	5.30	9.29	33	1.75	3.07	30	1.59	2.79	29	1.54	2.69	29	1.54	2.69	32	1.70	2.97	30	1.59	2.79	30	1.59		
Do.....	6.78	11.28	27	1.83	3.05	25	1.70	2.82	26	1.76	2.93	26	1.76	2.93	27	1.83	3.05	17	1.15	1.92	17	1.15		
Potatoes, mashed.....	.42	.20	51	.21	.10	97	.41	.19	98	.41	.20	92	.39	.18	116	.49	.23	106	.45	.21	106	.45		
Potatoes, boiled.....	.31		84	.26		69	.21		65	.20		57	.18		105	.33		79	.13		79	.13		
Sliced bananas.....	.17		72	.12		81	.14		92	.15	10.05	85	1.71	9.28	74	.13		102	2.05	11.14	102	2.05		
Plain omelet.....	2.01	10.92	73	1.47	7.97	97	1.95	10.59	92	1.85	10.05	85	1.71	9.28	95	1.91	10.37	20	.22		20	.22		
Corn flakes.....	1.11		14	.16		15	.17		18	.18		16	.18		17	.19								
Baked custard.....	1.98		189	1.72	3.74	230	2.09	4.55	83	.76	1.64	233	2.12	4.61	219	1.99	4.34							
Crackers.....	1.74	8.64	34	.59	2.94	33	.57	2.85	32	.56	2.76	32	.56	2.76	17	.30	1.47	32	.56	2.76	32	.56		
Gravy.....	.39	6.36	91	.35	5.79	76	.30	4.83	93	.36	5.91	102	.40	6.49	104	.41	6.61	104	.41	6.61	104	.41		
Vegetable soup.....	.26	.20	227	.59	.45	240	.62	.48	227	.59	.45	222	.58	.44	235	.61	.47	256	.67	.51	256	.67		
Coffee.....	.04		600	.24		600	.24		600	.24		600	.24		600	.24		600	.24		600	.24		
Total.....				13.73	106.88		13.95	103.75		12.71	85.61		13.94	139.99		15.27	99.82		10.22	111.03		10.22		
May 2, 1910.																								
Bread.....	1.54	86	195	3.00	1.68	198	3.05	1.70	198	3.05	1.70	197	3.03	1.69	189	2.91	1.63	91	1.40	78	91	1.40		
Butter.....	.13	88.08	56	.07	49.32	68	.09	59.89	32	.04	28.19	90	.12	79.27	56	.07	49.32	60	.08	52.85	60	.08		
Sugar.....			125			27			10			17			89			28			28			
Milk.....	.54	3.63	125	.68	4.54	95	.49	3.27	125	.68	4.54	125	.68	4.54	125	.68	4.54	125	.68	4.54	125	.68		
Cream.....	.45	20.56	130	.59	26.73	40	.38	8.22	130	.59	26.73	130	.59	26.73	130	.59	26.73	130	.59	26.73	130	.59		
Meat, veal cutlet.....	4.08	13.56	39	1.83	5.29	37	1.73	5.02	37	1.73	5.02	36	1.68	4.88	36	1.68	4.88	34	1.59	4.61	34	1.59		
Meat, steak.....	5.01	5.43	31	1.55	1.68	30	1.50	1.63	31	1.55	1.68	15	1.75	.81	30	1.50	1.63	31	1.55	1.68	31	1.55		
Potatoes, baked.....	.45		54	.24		104	.47		75	.34		79	.36		77	.35		71	.32		71	.32		
Do.....	.51		90	.46		106	.54		94	.48		94	.48		155	.79		92	.48		92	.48		
Scrambled eggs.....	1.76	9.80	99	1.74	9.70	108	1.90	10.58	117	2.06	11.47	106	1.87	10.39	98	1.72	9.60	92	1.62	9.02	92	1.62		
Oranges.....	.17		126	.21		123	.21		109	.19		149	.25		119	.20		133	.23		133	.23		
Corn flakes.....	1.11		17	.19		19	.21		19	.21		19	.21		14	.16		27	.30		27	.30		
Crackers.....	1.74	8.64	32	.56	2.76	32	.56	2.76	32	.56	2.76	32	.56	2.76	16	.28	1.38	32	.56	2.76	32	.56		
Apples.....	.07		134	.09		106	.07		180	.11		180	.11		109	.08								

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
<i>May 2, 1910—Con.</i>																		
June peas.....	166	1.10	2.33	165	1.09	3.84	145	0.96	3.38	162	1.07	3.77	163	1.08	3.80	182	1.20	4.24
Gravy.....	45	.16	3.87	85	.17	3.37	213	.55	.23	88	.18	3.48	84	.17	3.33	87	.17	3.45
Vegetable purée.....	125	.51	.21	202	.53	.22	88	.80	1.74	214	.56	.24	226	.59	.25	229	.60	.25
Baked custard.....	79	.72	1.56	74	.67	1.47	200	.08		71	.65	1.41	600	.24		600	.24	
Coffee.....	600	.24																
Total.....		13.43	110.59		15.73	117.76		15.01	94.70		13.15	139.97		13.09	107.09		11.61	110.91
<i>May 3, 1910.</i>																		
Bread.....	160	2.48	1.66	179	2.77	1.86	190	2.95	1.98	129	2.00	1.34	206	3.19	2.14	157	2.43	1.63
Butter.....	45	.06	39.64	68	.09	59.89	30	.04	26.42	69	.09	60.78	48	.06	42.28	87	.11	76.63
Sugar.....	146	.63	4.06	98	2.40	13.60	525	2.63	17.06	125	.63	4.06	125	.63	4.06	125	.63	4.06
Milk.....	125	.55	28.32	140	.55	28.32	140	.55	28.32	140	.55	28.32	140	.55	28.32	140	.55	28.32
Cream.....	39	.33	4.33	32	1.35	4.33	34	1.44	4.60	24	1.02	3.25	34	1.44	4.60	36	1.32	4.87
Hash, meat.....	28	1.35	3.24	25	1.30	2.89	28	1.46	3.24	21	1.09	2.43	30	1.56	3.47	31	1.62	3.56
Meat, roast leg of lamb.....	27	.12		80	.34		76	.33		69	.30		103	.44		49	.21	
Potatoes, baked.....				59	.22		62	.24		78	.30		58	.22		68	.26	
Potatoes, stewed (plain).....	73	1.53	10.10	84	1.76	11.63	70	1.47	9.69	63	1.32	8.72	75	1.58	10.38	75	1.58	10.38
Scrambled eggs.....	52	.09		55	.09		15	.17		41	.07		46	.08		47	.08	
Sliced bananas.....	12	.13		14	.16		15	.17		13	.15		12	.13		17	.19	
Corn flakes.....	12	.13		14	.16		15	.17		13	.15		12	.13		17	.19	
Crackers.....	57	2.85	2.85	57	2.85	2.85	33	.57	2.85	34	.59	2.94	33	.57	2.85	32	.56	2.76
Strawberries.....	176	.23		181	.24		180	.23		169	.22		192	.25		188	.24	
New onions.....	18	.04		7	.01		14	.03		14	.03		18	.04		16	.03	
June peas.....	142	1.11	1.35	139	1.08	1.32	123	.96	1.17	130	1.01	1.24	136	1.06	1.29	146	1.14	1.39
Gravy.....	32	.06	1.27	35	.07	1.39	34	.08	1.58	37	.07	1.47	39	.08	1.54	41	.08	1.54
Do.....	33	.19	4.24	31	.18	3.98	240	1.03	4.37	34	.20	4.37	40	.24	5.14	41	.24	5.27
Tomato bisque.....	222	.95	1.84	227	.98	1.88	240	1.03	1.99	236	1.01	1.96	256	1.10	2.12	225	.97	1.87
Coffee.....	600	.24					200	.08					600	.24		400	.16	
Total.....		11.79	102.90		14.16	135.94		14.15	97.32		10.66	120.99		13.45	108.12		12.60	142.31

May 4, 1910.

Bread.....	1.52	.93	186	2.83	1.73	194	2.95	1.80	195	2.96	1.81	196	2.98	1.82	166	2.52	1.54	140	2.13	1.30
Butter.....	.09	87.82	62	.05	54.45	17	.07	64.11	34	.03	29.85	16	.09	84.31	65	.06	57.08	85	.08	77.28
Sugar.....			102		475	173		18.24	525		20.16	125		28.30	120		4.80	125		4.80
Milk.....	.56	3.84	125	.70	4.80	475	2.66	15.33	120	.53	28.30	120	.53	28.30	125	.70	4.80	125	.70	4.80
Cream.....	.44	23.58	120	.53	28.30	65	2.20	15.33	120	.53	28.30	120	.53	28.30	125	.70	4.80	125	.70	4.80
Meat, pot roast of lamb	3.92	8.78	31	1.22	2.72	31	1.22	2.72	34	1.33	2.99	38	1.49	3.34	40	1.57	3.51	37	1.45	3.25
Meat, pot roast of beef	4.14	11.69	25	1.08	3.04	25	1.08	3.04	24	1.20	3.39	22	1.41	2.57	35	1.45	4.09	38	1.57	4.44
Potatoes, baked			53	.23		72	.32		80	.35		108	.48		127	.56		82	.36	
Potatoes, mashed	.30	.20				98	.38		28	.44	.32	95	.37		110	.43		122	.48	.35
Potatoes, baked	1.79	11.87	77	1.38	9.14	59	1.05	7.00	63	1.13	7.48	95	1.70	11.28	104	1.86	12.34	80	1.43	9.50
Apples.....	.07					120			95	.07		112	.08		98	.07		17	.19	
Corn flakes.....	1.12		13	.15		17	.19		31	.54		18	.20		32	.56		17	.19	
Crackers.....	1.74	8.64	31	.54	2.68	31	.54	2.68	31	.54	2.68	31	.54	2.68	32	.56	2.76	32	.56	2.76
String ribarb.....	.25	.17	163	1.19	1.94	142	1.28	1.70	170	1.28	1.69	123	1.35	1.85	185	1.35	1.85	118	.86	
String beans.....	.46	1.72	239	1.10	4.11	101	.25	1.17	111	.28	1.19	49	1.23	.08	109	.27	4.47	107	.27	.18
Cream of celery.....	.12		30	.04		35	.04		273	1.26	4.70	253	1.16	4.35	240	1.20	4.47	241	1.11	4.13
Radishes.....	.30	6.62	52	.26	3.44	47	.24	3.11	125	.05		52	.26	3.44	48	.24	3.18	41	.27	3.57
Lean gravy.....	.04		525	.21											525	.21		325	.13	
Coffee.....																				
Total.....				11.66	114.51		13.81	122.32		14.60	101.88		12.89	147.25		13.82	122.58		11.99	130.44

May 6, 1910.

Bread.....	1.60	1.47	188	3.01	2.76	201	3.22	2.95	160	2.56	2.35	192	3.07	2.82	186	2.98	2.73	150	2.40	2.21
Butter.....	.09	87.82	54	.05	47.42	75	.07	65.87	37	.03	32.49	89	.08	78.16	58	.05	50.94	101	.09	88.70
Sugar.....			118		4.24	525		17.80	525		17.80	125		21.41	104		4.24	125		4.24
Milk.....	.40	3.39	125	.61	4.24	420	2.57	17.80	525		17.80	125	.61	4.24	125	.61	4.24	125	.61	4.24
Cream.....	.41	17.84	120	.49	21.41	120	1.49	21.41	120	.49	21.41	120	1.49	21.41	120	1.49	21.41	120	1.49	21.41
Meat, pot roast beef.....	4.23	14.05	34	1.61	5.34	37	1.57	5.20	35	1.48	4.92	27	1.14	3.79	36	1.52	5.06	37	1.57	5.20
Meat, rump steak.....	5.19	14.68	24	1.25	3.52	25	1.30	3.67	27	1.40	3.96	26	1.40	3.96	26	1.35	3.82	25	1.30	3.67
Potatoes, baked.....	.45		22	.10		46	.21		35	.16		33	.15		66	.30		36	.16	
Potatoes, mashed.....	1.41	3.34	41	1.17	1.37	92	1.38	3.07	113	1.46	3.77	64	1.26	2.14	99	1.41	3.31	113	1.46	3.77
Scrambled eggs.....	1.67	7.23	100	1.67	7.23	102	1.70	7.07	96	1.60	6.94	110	1.84	7.95	103	1.72	7.45	119	1.99	8.60
Oranges.....	.21		113	.24		100	.21		14	.16		90	.19		108	.23		17	.19	
Corn flakes.....	1.12		15	.17		17	.19		34	.59		8	.09		25	.28		30	.52	2.59
Crackers.....	1.74	8.64	31	.54	2.68	31	.54	2.68	34	.59	2.94	31	.54	2.68	32	.56	2.76	30	.52	2.59
Baked apples.....	.08		177	1.14		195	.16		239	.19		199	.16		219	.18		199	.16	
June peas.....	.86	3.85	152	1.31	5.85	155	1.33	5.97	152	1.31	5.85	144	1.24	5.54	152	1.31	5.85	143	1.23	5.51
Mulligan's soup.....	.21		296	.56		264	.55		266	.56		288	.60		268	.56		275	.58	
Gravy.....	.41	5.69	40	.16	2.28	44	.18	2.50	200	.08		44	.18	2.50	49	.20	2.79	45	.18	2.56
Coffee.....	.04		600	.24											600	.24		400	.16	
Total.....				12.32	104.66		14.67	139.04		13.64	102.99		10.64	131.83		12.99	110.92		12.09	149.04

May 6, 1910.

Bread.....	1.58	1.40	187	2.95	2.62	181	2.86	2.53	146	2.31	2.04	192	3.03	2.69	186	2.94	2.60	160	2.53	2.24
Butter.....	.09	87.82	70	.06	61.47	71	.06	62.35	32	.03	28.10	79	.07	69.38	83	.07	72.89	90	.08	79.04
Sugar.....			139		4.10	475		15.58	525		17.21	125		4.10	125		4.10	125		4.10
Milk.....	.51	3.28	125	.64	4.10	475	2.42	15.58	525		17.21	125		4.10	125		4.10	125		4.10

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject N 6 (P. L. N.).		
	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	
May 6, 1910—Con.																		
Cream.....	0.41	20.48	130	Grams. 0.53	Grams. 26.62	120	0.49	24.58	Grams. 90	0.37	18.43	130	Grams. 0.53	Grams. 26.62	130	0.53	26.62	
Meat, rump steak.....	4.55	12.71	26	1.18	3.30	31	1.41	3.94	34	1.55	4.32	18	1.82	2.29	32	1.46	4.07	
Meat, roast leg of veal.....	4.96	6.72	29	1.44	1.95	27	1.34	1.81	29	1.44	1.95	27	1.34	1.81	29	1.44	1.95	
Potatoes, baked.....	5.0		67	3.4		104	5.2		104	5.2		74	3.7		93	4.7		
Do.....	4.7		68	3.2		136	6.4		85	4.0		51	2.4		182	8.6		
Plain omelet.....	1.71	12.65	89	1.52	11.26	79	1.35	9.99	85	1.33	9.87	89	1.52	11.26	94	1.61	11.89	
Oranges.....	2.21		119	2.25		86	1.18		107	2.22		143	3.0		102	2.1		
Corn flakes.....	1.12		13	1.15		15	1.17		12	1.18		15	1.17		13	1.15		
Crackers.....	1.74	8.64	31	5.4	2.68	32	5.6	2.76	32	5.6	2.76	32	5.6	2.76	33	5.7	2.85	
Gravy.....	4.1	5.69	47	1.9	2.67	53	2.22	3.02	47	1.9	2.67	23	0.9	1.31	55	2.3	3.13	
Do.....	4.1	1.05	33	1.4	3.5	39	1.6	4.1	46	1.9	4.8	37	1.5	3.9	43	2.0	5.0	
June peas.....	8.2	2.15	136	1.12	2.92	133	1.09	2.86	129	1.06	2.77	128	1.05	2.75	141	1.16	2.92	
Strawberries.....	13		67	0.9		87	1.1		80	1.0		94	1.2		84	1.1		
Cream of potato.....	40	85	229	9.2	1.95	248	9.9	2.11	257	1.03	2.18	272	1.09	2.31	252	1.01	2.14	
Apples.....	0.7		105	0.7		123	0.9		111	0.8		124	0.9		124	1.1	2.36	
Cold slaw.....	3.2		27	0.9		34	1.1		36	1.2		35	1.1		34	1.1		
Coffee.....	0.4		600	0.24		200	0.8		200	0.8		36	1.2		600	0.24		
Total.....				12.78	121.89		14.79	131.94		13.89	89.64		12.44	129.12		13.90	133.75	
May 7, 1910.																		
Bread.....	1.53	77	184	2.82	1.42	190	2.91	1.46	186	2.85	1.43	162	2.48	1.25	175	2.68	1.35	
Butter.....	13	86.64	75	1.10	64.98	86	1.11	74.51	40	1.05	34.66	73	0.9	63.25	48	0.6	41.59	
Sugar.....			130			43			19			41			81			
Milk.....	55	3.86	125	69	4.83	528	2.89	20.27	525	2.89	20.87	125	69	4.83	125	69	4.83	
Cream.....	43	20.72	130	56	26.94	130	56	26.94	130	56	26.94	130	56	26.94	130	56	26.94	
Meat, roast leg of veal.....	7.29	8.44	24	1.75	2.63	29	2.11	2.45	27	1.97	2.28	29	2.11	2.45	29	2.11	2.45	
Meat, roast loin of pork.....	3.29	31.68	36	1.18	11.40	38	1.25	12.04	40	1.32	12.67	24	79	7.60	48	1.58	15.21	
Potatoes, baked.....	52		54	28		105	3.55		127	3.66		87	45		138	72		
Do.....	54		91	28		123	3.66		106	3.67		97	52		149	80		
Scrambled eggs.....	1.62	7.19	84	1.36	6.04	96	1.56	6.90	98	1.59	7.05	97	1.61	6.26	96	1.56	6.90	
Sliced bananas.....	1.19		88	1.17		88	1.17		78	1.15		71	1.3		85	1.6		
Corn flakes.....	1.12		20	2.2		20	2.2		19	2.1		18	2.0		16	1.8		
Crackers.....	1.74	8.64	31	5.4	2.68	30	5.2	2.59	29	5.0	2.51	34	5.9	2.94	30	5.2	2.59	

Radishes.	.14	.26	.04	.24	.03		.20	.04		.20	.03		.23	.03
Sliced pineapple.	.08	142	.11	135	.11	141	105	.13	141	105	.11	138	.23	.03
String beans.	.24			92	.22	113	105	.25	106	105	.25	96	.23	.25
Gravy.	.41	43	.18	45		40	40	.16	43	45	.45	54	.22	.37
Do.	.20	1.05	.11	3.74	.11	3.00	54	.11	3.07	53	.11	3.60	.50	3.40
Tomato cream.	.39	.62	.87	224	.86	1.37	237	.02	1.47	250	.92	1.46	.93	1.45
Coffee	.04	600	.24			200		.08		400	.16		400	.16
Total.			11.71	125.90	14.84	152.37	14.70	109.57			13.38	107.65		13.03
May 8, 1910.							9.58	118.98						161.26
Bread.	1.54	1.02	2.66	1.76	2.93	1.04	2.22	1.47	182	1.86	2.42	1.60	172	2.65
Butter.	.13	86.64	.08	50.25	.12	83.17	40	.65	84	72.78	.07	43.32	108	.14
Sugar.	.65	3.60	.69	4.50	2.80	18.90	525	2.80	125	4.50	.09	4.50	94	.69
Milk.	.43	20.13	.43	20.13	.43	20.13	70	3.40	100	20.13	.43	20.13	125	.43
Meat, roast beef.	5.95	9.13	21	1.92	19	1.13	70	14.00	15	89	1.25	1.82	21	1.25
Do.	4.51	7.18	27	1.94	25	1.13	24	1.08	16	72	1.13	1.80	23	1.04
Potatoes, baked.	.35	.45	.31	.76	.37	.86	86	1.72	60	.20	.88	.88	45	.22
Potatoes, stewed.	.45	.45	.31	.76	.37	.86	86	1.72	60	.20	.88	.88	45	.22
Plain omelet.	1.81	12.55	.73	1.32	.98	8.28	77	3.30	83	10.42	.31	9.79	88	1.81
Oranges.	.24	137	.33	115	.28	23	23	.28	18	10.42	.31	9.79	129	.31
Rice flakes.	1.20	18	.29	17	.56	2.76	32	.56	31	2.08	.20	2.76	21	.25
Crackers.	3.31	31	.54	2.68	.66	2.76	32	.56	31	2.08	.20	2.76	33	.57
Vanilla cream custard.	1.74	8.64	1.58	2.78	1.54	2.71	100	1.87	206	2.80	1.09	2.97	107	1.56
June peas.	.77	4.40	1.48	1.14	6.65	3.43	148	1.14	130	5.84	.96	5.61	132	1.02
Gravy.	.50	7.39	.43	6.28	.50	7.39	200	6.65	96	7.09	.50	7.39	111	.56
Tomato consommé.	.10	.26	.237	.45	.62	.62	200	.46	238	.62	.47	.65	205	.60
Coffee	.04	600	.24			200		.08		400	.16		400	.16
Total.			12.89	108.67	14.98	154.86	12.25	92.06			13.49	102.44		154.97
May 9, 1910.							12.32	131.30						
Bread.	1.68	1.22	3.51	2.55	3.23	2.34	3.21	2.33	173	2.91	3.56	2.59	147	2.47
Butter.	.13	86.64	.12	82.31	.13	85.77	40	.65	88	.11	.10	68.45	86	.11
Sugar.	.60	3.32	.63	4.15	2.63	17.43	525	2.63	125	.63	.63	4.15	125	.63
Milk.	.41	21.21	.45	23.33	.45	23.33	110	4.45	233	.45	.45	23.33	110	.45
Meat, roast beef.	4.55	9.23	32	2.95	30	1.37	32	2.95	22	2.00	2.63	2.58	30	1.37
Meat, mince steak.	5.12	10.77	29	3.12	28	3.12	31	3.12	22	1.13	1.54	3.23	25	1.28
Potatoes, baked.	.30	.40	.30	1.06	.53	.53	112	.56	33	.27	.70	.54	54	.28
Do.	.48	.66	.32	.48	.46	.46	69	.33	56	.27	.47	.54	50	.28
Scrambled eggs.	1.53	8.29	1.53	8.29	1.53	8.29	92	1.41	91	1.39	1.65	8.95	110	1.68
Oranges.	.24	119	.29	95	.23	143	143	.34	126	.30	.22	.22	24	.27
Corn flakes.	1.12	22	.25	18	.20	23	23	.26	18	.20	.26	2.59	29	.50
Crackers.	1.74	8.64	31	2.68	32	2.76	32	.56	30	.52	.52	2.59	29	.50
Strawberries.	.10	77	.08	82	.08	.08	81	.08	92	.09	.09	.09	84	.08
New onions.	.21		.05	.03	.03				12	.03	.04		23	.05
String beans.	.50	3.49	.22	111	.25	3.87	99	.25	120	.26	.26	2.53	105	.26
Gravy.	.25	7.39	.22	3.18	.25	3.62	42	.21	42	.21	.22	3.25	47	.24
Do.	.14	6.51	.06	2.93	.06	2.80	41	.06	41	.06	.08	3.52	46	.06

Daily food chart—Continued.

Date and kind of food.	Nitrogen.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
		Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.
May 9, 1910—Con.																			
Combination soup.....	0.42	247	1.04	1.31	220	0.92	1.17	220	0.92	1.17	224	0.94	1.19	245	1.03	1.30	230	0.97	1.22
Pickles.....	.06	38	.02		35	.03		9	.01		36	.02		45	.03		40	.02	
Grape jelly.....	.06	56	.03		56	.03					42	.03		43	.03		47	.03	
Coffee.....	.04	600	.24		200	.08								600	.24		400	.16	
Total.....			12.72	136.80		14.34	156.76		14.22	99.06		10.59	131.51		13.39	127.57		11.18	132.21
May 10, 1910.																			
Bread.....	1.58	197	3.11	1.56	192	3.03	1.52	174	2.75	1.37	161	2.54	1.27	233	3.68	1.84	191	3.02	1.51
Butter.....	.13	86.64	.09	62.38	76	.10	65.85	37	.05	32.06	31	.10	69.31	66	.09	57.18	89	.12	77.11
Sugar.....	.50	120	.63	4.19	125	.63	4.19	17	.63	4.19	125	.63	4.19	125	.63	4.19	125	.63	4.19
Milk.....	.41	120	.49	23.38	120	.49	23.38	40	1.46	5.81	28	1.00	3.97	38	1.36	5.38	120	.49	23.38
Hash, meat.....	3.57	14.17	36	1.29	35	1.25	4.96	41	1.46	5.81	28	1.00	3.97	38	1.36	5.38	35	1.25	4.96
Meat, roast beef.....	5.10	15.47	21	3.25	24	1.22	3.71	24	1.22	3.71	26	1.33	4.02	27	1.38	4.18	29	1.48	4.49
Potatoes, mashed.....	.43	102	.44	.08	83	.36	.07	89	.38	.07	92	.40	.07	100	.43	.08	96	.41	.08
Potatoes, baked.....	.44	59	.26		80	.35		98	.43		64	.28		130	.57		77	.34	
Plain omelet.....	1.74	13.77	71	9.78	50	.87	6.89	51	.89	7.02	70	1.22	9.64	76	1.32	10.47	66	1.15	9.09
Sliced bananas.....	.19	71	.13	.14	73	.14		81	.15		75	.15		85	.16		85	.16	
Corn flakes.....	1.12	12	.13		11	.12		14	.16		14	.16		19	.21		19	.21	
Crackers.....	1.74	29	.50	2.51	33	.57	2.85	30	.52	2.59	31	.54	2.68	30	.52	2.59	33	.57	2.85
June peas.....	.89	106	.94	.99	96	.85	.89	111	.99	1.03	103	.92	.96	114	1.01	1.06	106	.94	.99
Gravy.....	.14	40	.06	2.60	44	.06	2.86	48	.07	3.12	48	.07	3.12	48	.07	3.12	47	.07	3.06
Do.....	.17	85	.07	.35	50	.09	.43	44	.07	.37	44	.07	.37	41	.07	.35	47	.08	.40
Banana cream.....	.46	12	.89	.23	199	.92	.24	120	.55	.14	218	1.00	.26	220	1.05	.27	214	.98	.26
Custard.....	.25	181	.45	.45	208	.52	.52	235	.59	.59	228	.57	.57	217	.54	.54	254	.64	.64
Tomato soup.....	.12	62	.07	.07	51	.06	.07	61	.07	.07	59	.07	.07	38	.07	.07	47	.06	.06
Sliced tomatoes.....	.04	600	.24		200	.08								600	.24		400	.16	
Coffee.....																			
Total.....			12.10	116.85		11.63	118.36		11.41	81.96		11.21	108.22		13.82	114.63		12.76	133.01
May 11, 1910.																			
Bread.....	1.68	199	3.34	1.81	209	3.51	1.90	196	3.29	1.78	182	3.06	1.66	193	3.24	1.76	190	3.19	1.73

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.
May 13, 1910—Con.	Per cent.	Per cent.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
Boiled salmon	3.75	15.02	65	43	1.61	6.46	35	1.31	5.26	9.16	11.87	85	2.08	11.87	85	3.19	12.77	85
Fish, hush.	1.54	10.24	92	103	1.59	10.55	43	.66	4.40	11.16	10.14	89	1.32	10.14	89	1.37	9.11	89
Potatoes, baked	1.53		44	101	1.54		94	.66		10.47		163	.86		163	.86		163
Scrambled eggs	1.68	10.91	13	94	1.58	10.26	87	1.46	9.49	10.47	11.24	104	1.73	11.24	104	1.75	11.35	104
Rice flakes	1.18		15	16	1.18		18	.21		17		17	.20		21	.25		21
Oranges .....	.21		133	118	.25		130	.27		135		135	.26		125	.26		125
Canned peaches .....	.08		112	120	.10		112	.09		116		116	.09		125	.10		125
Crackers	1.91	8.67	25	26	.60	2.25	23	.44	1.99	2.08	2.08	21	.40	1.82	24	.46	2.08	24
June peas .....	.79	2.71	103	116	.92	3.14	106	.84	2.87	3.17	3.52	130	1.03	3.52	127	1.00	3.44	127
Scotch broth .....	.23	2.10	99	107	.25	2.25	119	.27	2.50	2.21	2.23	105	.24	2.23	151	.35	3.17	151
Tomato consommé .....	.15	.60	112	110	.17	.66	123	.18	.74	.83	.73	122	.18	.73	109	.16	.65	109
Strawberries .....	.12		92	101	.12		101	.12		117		117	.13		111	.13		111
Coffee .....	.06		600				200	.12				400	.24		600	.36		600
Total			12.44	14.17	164.68		12.82	108.93		165.19	157.56		14.26	157.56		13.80		147.69
May 14, 1910.																		
Bread	1.54	1.19	199	214	3.30	2.55	186	2.86	2.21	1.99	2.38	200	3.08	2.38	165	2.56	1.98	165
Butter .....	.12	87.45	53	84	.10	73.46	45	.05	39.35	67.34	62.96	72	.09	62.96	75	.09	65.59	75
Sugar			118	51			18					92			46			46
Milk .....	.53	3.52	125	325	1.72	11.44	325	1.72	11.44	4.40	4.40	125	.66	4.40	125	.66	4.40	125
Cream .....	.42	20.81	120	120	.50	24.97	80	.34	16.65	16.65	24.97	80	.50	24.97	120	.50	24.97	120
Meat, round steak	4.40	10.42	31	33	1.45	3.44	33	1.36	2.38	2.81	3.54	34	1.50	3.54	35	1.54	3.65	35
Meat, steak	4.13	7.20	34	36	1.40	2.59	33	1.36	2.38	1.73	2.59	33	1.49	2.59	33	1.36	2.38	33
Potatoes, baked .....	.43		63	78	.37		73	.31		.98		89	.52		96	.41		96
Potatoes, stewed .....	.38			88			80	.30		.80		80	.30		74	.38		74
Plain mutton	1.75	12.90	59	84	1.47	10.84	55	.96	7.10	10.71	8.26	84	1.12	8.26	76	1.33	9.80	76
Stewed bananas	1.20		96	84	.17		18	.22		.18		86	.24		91	.18		91
Rice flakes .....	.20		20	18	.22		18	.22		.18		20	.24		18	.22		18
Apples .....	.06		143	150	.09		112	.07		.08		117	.07		167	.10		167
Crackers	1.91	8.67	86	22	.42	1.91	19	.36	1.65	1.73	1.91	20	.38	1.91	20	.38	1.73	20
Gravy .....	.13	3.58	86	91	.12	3.26	88	.11	3.16	3.16	3.61	86	.06	3.61	89	.12	3.19	89
String beans .....	.23	3.53	93	99	.23	3.49	88	.20	3.11	3.60	3.04	91	.21	3.04	91	.21	3.21	91
Tomato soup .....	.10	.17	222	22	.34		197	.20	.33	.35	.34	201	.20	.34	217	.22	.37	217
Radishes .....	.15		24	23	.03		32	.05		.05		32	.04		26	.03		26

	.09	.77	.07	.06	.71	.06	.68	.06	.75	.07	.114.46	.74	.07	.73	.07
	.06	600	.36	100.11	12.24	138.29	200	.12	84.22	9.34	114.46	600	.36	400	.24
Sliced pineapples.....															
Coffee.....															
Total.....															
May 16, 1910.															
Bread.....	1.51	1.86	2.03	3.24	184	2.78	3.42	2.27	2.79	2.61	3.22	171	2.58	150	2.79
Butter.....	.12	87.45	.06	45.47	86	.10	75.21	.05	36.73	.10	76.08	53	.06	96	.12
Sugar.....	.53	3.46	.06	4.33	102	1.72	11.25	1.72	11.25	.66	4.33	115	.66	103	.66
Milk.....	.43	19.17	.06	26.84	325	.60	26.84	.60	26.84	.60	26.84	140	.60	140	.60
Cream.....	4.97	3.61	2.09	7.79	22	1.09	7.79	1.09	7.79	.14	7.79	16	.80	23	1.14
Meat, veal cutlets.....	3.96	6.90	25	9.90	1.73	31	2.14	.55	.97	.49	2.14	18	.71	29	1.15
Do.....	.52	40	.21	1.48	65	1.23	2.14	.14	.97	.49	2.14	111	.58	84	.44
Potatoes, baked.....	.37	7.22		7.58	79	.29	7.51	.26	7.44	.26	7.44	92	.34	86	.32
Potatoes, stewed.....	1.44	105	1.51	7.58	104	1.50	7.51	.26	7.44	.26	7.44	92	.34	86	.32
Scrambled eggs.....	.21	119	.25	25	107	.22	110	.23	25	.23	25	117	.23	124	.23
Oranges.....	.21	119	.25	25	107	.22	110	.23	25	.23	25	117	.23	124	.23
Rice flakes.....	1.20	18	.22	25	23	.28	25	.26	25	.26	25	19	.23	19	.23
Short cake.....	1.22	20.38	1.04	17.32	62	.76	12.64	.98	15.90	.72	11.62	94	1.15	98	1.20
Crackers.....	1.91	8.67	21	4.01	1.82	16	3.1	.35	1.73	.22	4.01	21	.40	20	.38
Strawberries.....	1.16	8.04	.74	5.95	8.13	.67	6.67	.25	25	.23	6.08	91	.15	90	.14
Gravy.....	.10	224	.22	22	218	.22	22	.25	25	.23	22	228	.23	250	.26
Consomme.....	.07	20	.15	.42	225	.16	.45	.16	.45	.16	.45	228	.16	232	.16
June peas.....	.91	2.68	.91	2.68	116	1.06	8.11	1.04	3.06	1.01	2.97	56	.51	108	.46
Coffee.....	.06	600	.36		200			.12				600	.36	400	.24
Total.....				118.17		12.79	151.42	10.80	107.16	9.23	141.43		11.12		161.41
May 16, 1910.															
Bread.....	1.63	1.08	2.80	1.86	182	2.97	1.97	2.95	1.95	3.06	2.03	164	2.67	172	2.80
Butter.....	.12	87.45	.05	61.22	88	.11	76.90	.08	56.84	.10	72.98	60	.07	103	.12
Sugar.....	.57	3.30	.71	4.13	325	1.85	10.73	1.85	10.73	.71	4.13	125	.71	125	.71
Milk.....	.45	19.60	.54	23.52	120	.54	23.52	.54	23.52	1.10	6.95	25	1.06	25	1.06
Meat, fried ham.....	4.24	26.73	26	6.95	21	.89	5.61	.94	4.01	1.10	6.95	23	1.43	21	1.89
Meat, roast beef.....	6.22	11.01	23	2.53	23	1.43	2.53	.28	61	.16	61	81	.36	125	1.56
Potatoes, baked.....	.45	61	.27	25	61	.27	25	.28	61	.16	61	81	.36	125	1.56
Do.....	.59	63	.35	40	67	.46	35	.63	61	.16	61	81	.36	125	1.56
Scrambled eggs.....	1.65	8.14	1.49	7.33	106	1.75	8.63	1.75	9.52	1.62	7.98	111	1.83	96	1.75
Oranges.....	.21	145	.30	27	130	.27	27	.18	18	.26	27	127	.27	127	.26
Rice flakes.....	1.23	18	.27	20	19	.23	20	.26	20	.27	20	19	.23	21	.26
Crackers.....	1.91	8.67	18	5.4	20	.38	1.73	.38	1.73	.40	1.82	20	.38	21	1.73
Cream gravy.....	.62	9.86	.58	9.27	95	.59	9.37	.58	9.17	.58	9.17	95	.59	100	.62
Sliced tomatoes.....	.12	168	1.06	.17	173	1.09	.17	.07	.17	.06	.18	58	.07	51	.06
Cornstarch custard.....	.63	5.43	.66	3.58	86	.14	4.67	.18	4.62	1.15	4.18	184	1.16	171	1.08
String beans.....	.21	19	.25	.39	203	.24	.39	.26	.42	.26	.40	242	.29	223	.27
Vegetable consomme.....	.06	600	.36		200			.12				600	.36	400	.24
Total.....				122.51		13.31	146.28	11.39	113.51	10.79	132.94		13.00		153.04

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Per cent.	Ether extract.		Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
<i>May 17, 1910.</i>																		
Bread.....	1.48	0.98	156	184	2.72	1.80	195	2.89	1.91	170	2.32	1.67	190	2.81	1.86	157	2.32	1.54
Butter.....	.14	86.90	106	84	.12	73.00	56	.08	48.66	80	.11	69.52	77	.11	66.91	63	.09	54.75
Sugar.....			125	525	2.63	17.69	325	2.63	17.69	125	.63	4.21	125	.63	4.21	125	.63	4.21
Milk.....	.50	3.37	120	80	.33	18.18	120	.49	27.26	120	.49	27.26	120	.49	27.26	120	.49	27.26
Cream.....	.41	22.72	26	24	1.10	1.75	12	.55	.87	27	1.24	1.97	27	1.24	1.97	27	1.24	1.97
Meat, roast beef.....	4.59	7.29	28	26	1.32	2.02	86	.40	1.87	19	2.30	1.37	27	2.27	1.95	30	1.32	2.02
Do.....	4.72	7.21	69	32	1.32	2.02	86	.40	1.87	19	2.30	1.37	27	2.27	1.95	30	1.32	2.02
Potatoes, baked.....	.46		68	27	1.69	7.33	105	1.69	7.33	105	1.69	7.33	105	1.69	7.33	105	1.69	7.33
Do.....	.39		68	27	1.69	7.33	105	1.69	7.33	105	1.69	7.33	105	1.69	7.33	105	1.69	7.33
Scrambled eggs.....	1.61	6.98	105	105	1.69	7.33	105	1.69	7.33	105	1.69	7.33	105	1.69	7.33	105	1.69	7.33
Sliced bananas.....	.21		78	16	.21	1.16	94	.20	1.18	87	.18	7.40	90	.19	8.03	91	.19	8.03
Rice flakes.....	1.23		17	16	.20	1.16	94	.20	1.18	87	.18	7.40	90	.19	8.03	91	.19	8.03
Apples.....	.05		240	265	.13	1.82	236	.14	1.82	236	.14	1.82	236	.14	1.82	236	.14	1.82
Crackers.....	1.91	8.67	25	21	.40	1.82	21	.40	1.82	21	.40	1.82	21	.40	1.82	21	.40	1.82
Gravy.....	.39	9.43	45	53	.37	4.16	54	.48	1.93	46	.19	4.53	45	.18	4.24	55	.21	5.19
Do.....	.42	11.25	40	37	.16	4.16	54	.48	1.93	46	.19	4.53	45	.18	4.24	55	.21	5.19
June peas.....	.89	3.57	54	48	1.83	5.60	200	.12	1.65	50	.10	.56	57	.11	.63	60	.24	.73
Tomato soup.....	.21	.32	279	55	.10	.61	200	.12	1.65	50	.10	.56	57	.11	.63	60	.24	.73
Stewed cabbage.....	.19	1.11	51	55	.10	.61	200	.12	1.65	50	.10	.56	57	.11	.63	60	.24	.73
Coffee.....	.06		600	600			600			600			600			600		
Total.....					12.94	135.93		10.92	108.24		10.23	128.23		12.32	127.31		11.09	113.67
<i>May 18, 1910.</i>																		
Bread.....	1.61	.95	126	178	2.87	1.69	182	2.93	1.73	158	2.54	1.50	154	2.48	1.46	175	2.82	1.66
Butter.....	.14	86.90	122	96	.13	83.42	58	.08	50.40	72	.10	62.57	38	.05	33.02	79	.11	68.65
Sugar.....			125	66	1.85	11.38	325	1.85	11.38	125	.71	4.38	125	.71	4.38	125	.71	4.38
Milk.....	.57	3.50	120	325	1.85	11.38	325	1.85	11.38	125	.71	4.38	125	.71	4.38	125	.71	4.38
Cream.....	.47	19.36	120	110	.82	21.30	110	.82	21.30	110	.82	21.30	110	.82	21.30	110	.82	21.30
Meat, roast fresh ham.....	4.03	23.68	23	25	1.01	5.92	25	1.01	5.92	14	.56	3.32	23	.93	5.35	25	1.01	5.92
Do.....	4.12	22.96	26	26	1.07	5.97	26	1.07	5.97	14	.56	3.32	23	.93	5.35	25	1.01	5.92
Potatoes, boiled.....	.29		49	14	.30	7.39	103	.30	7.39	89	.26	7.39	94	.27	7.15	78	.23	6.89
Potatoes, baked.....	.34		88	69	.23	7.39	103	.35	8.35	89	.30	7.39	94	.27	7.15	78	.23	6.89
Scrambled eggs.....	1.70	5.03	93	107	1.56	7.39	104	1.77	8.35	92	1.56	7.39	89	1.51	7.15	100	1.70	8.03
Oranges.....	.15			16	.16		166	.25		166	.25		119	.18				

Butter	.08	88.84	45	.04	39.98	98	.08	87.06	45	.04	39.98	96	.04	47.09	72	.06	63.96
Sugar			169			85			325			125			97		
Milk	.51	2.86	125	.64	3.58	325	1.66	9.70	125	.64	3.58	125	.64	3.58	125	.64	3.58
Cream	.40	20.79	120	.48	24.95	120	.48	24.95	120	.48	24.95	120	.48	24.95	120	.48	24.95
Meat, veal entrees	4.09	6.79	32	1.31	2.17	32	1.31	2.17	32	1.31	2.17	32	1.31	2.17	32	1.31	2.17
Do	3.77	8.35	32	1.21	2.07	35	1.32	2.92	41	1.56	3.42	15	1.23	2.04	37	1.39	3.09
Potatoes, baked	.28		53	.20		69	.35		198			74	.26		95	.36	
Potatoes, stewed	1.38	8.97	185	1.34	7.62	91	1.44	8.10	84	.94	7.80	98	.27		46	.13	
Scrambled eggs	.18		181	.33		125	.23		100	.27		81	.33	7.53	49	1.60	8.88
Oranges	1.69		18	.20		275	.25		24	.26		25	.27		25	.27	
Corn flakes	.10		201	.20		232	.23		135	.14		243	.24		266	.26	
Strawberries	.70	.34	115	.81	.39	120	.84	.41	103	.72	.35	116	.81	.39	116	.81	.39
French peas	1.18	3.46	81	.15	2.80	88	.16	3.04				91	.16	3.15	80	.14	2.77
Gravy	.12		247	.32		55	.07		243	.51		40	.05		55	.07	
Sliced tomatoes	.21		10	.19		55	.19		10	.19		227	.48	.32	138	.29	.34
Beef broth	1.91	8.67	400	.16		11	.21		200	.08		11	.21	.19	10	.19	.87
Coffee	.04		200	.04								400	.16		200	.08	
Tea	.02											200	.04		200	.04	
Total				10.32	87.55		11.84	141.47		11.79	83.19		7.89	123.18		10.82	112.82
May 23, 1910.																	
Bread	1.68	1.32	177	2.97	2.34	184	3.09	2.43	169	2.84	2.23	178	2.99	2.35	163	3.06	2.40
Butter	.08	88.84	56	.04	49.75	97	.08	86.17	44	.04	39.09	47	.07	76.40	70	.06	66.63
Sugar	.56	3.26	125	.70	4.08	525	2.94	17.12	10	2.94	17.12	125	.70	4.08	125	.70	4.08
Milk	.46	19.56	120	.55	23.47	120	.55	23.47	120	.55	23.47	120	.55	23.47	120	.55	23.47
Meat, roast, leg of lamb	5.22	12.64	28	1.46	3.54	30	1.57	3.70				15	.78	1.90	32	1.07	3.01
Do	4.22	10.63	27	1.14	2.87	28	1.18	2.98				19	.80	2.02	34	1.43	4.04
Potatoes, baked	.35		58	.20		62	.22		82	.29		71	.25		84	.29	
Do	.67					72	.48		104	.70		102	.68		61	.41	
Sliced bananas	.19		89			102	.19		93	.18		113	.18		99	.18	
Scrambled eggs	1.59	8.50	19	1.42	7.57	100	1.59	8.50	105	1.67	8.93	133	1.80	9.01	99	1.57	8.42
Corn flakes	1.12		19	.21		20	.21		19	.21		22	.25		28	.31	
Sliced pineapple	.09		104	.09		129	.12		115	.10		144	.13		136	.12	
New onions	.22		20	.04								18	.04		20	.04	
French peas	1.01		110	.81	1.11	107	.79	1.08	104	.77	1.05	117	.87	1.18	107	.79	1.08
Crackers	1.91	8.67	22	.42	1.91	19	.36	1.65	21	.40	1.82	92	.42	1.82	18	.34	1.56
Gravy	2.20	6.26	89	.18	5.57	85	.17	5.32				92	.18	5.76	89	.18	5.57
Tomato soup	.16	.27	108	.32	.53	211	.34	.57	215	.34	.58	209	.33	.62	222	.36	.60
Coffee	.04		600	.24					200	.08					400	.16	
Total				10.79	102.74		13.89	153.08		11.11	94.29		9.26	125.32		12.24	121.46
May 24, 1910.																	
Bread	1.45	1.26	173	2.51	2.18	178	2.58	2.24	178	2.58	2.24	187	2.71	2.36	184	2.77	2.41
Butter	.10	88.63	50	.05	44.32	104	.10	92.18	39	.05	43.43	82	.08	72.68	54	.06	76.22
Sugar			164			57			125			73			123		
Milk	.53	3.31	125	.66	4.14	125	.66	4.14	125	.66	4.14	125	.66	4.14	125	.66	4.14

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.
<i>May 24, 1910—Con.</i>	<i>Per cent</i>		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Cream.....	0.45	18.98	120	0.54	22.78	120	0.54	22.78	120	0.54	22.78	120	0.54	22.78	120	0.54	22.78	120
Meat, roast beef.....	5.56	8.41	25	1.39	2.10	23	1.28	1.93	22	1.22	1.85	24	1.33	2.02	22	1.22	1.85	24
Do.....	5.39	5.26	25	1.35	1.32	21	1.13	1.10	86	30	28	90	32	1.32	25	30	1.32	25
Potatoes, stewed.....	.35		90	.35		107	.42		120	.47		104	.58		79	.31		51
Potatoes, boiled.....	1.36	6.49	100	1.56	6.49	104	1.62	6.75	101	1.58	6.55	104	1.62	6.75	100	1.56	6.49	109
Scrambled eggs.....	.18		88	.16		116	.21		108	.19		118	.21		133	.24		18
Oranges.....	1.15		19	.22		20	.23		20	.23		19	.22		21	.24		21
Rice flakes.....	1.91	8.67	21	.40	1.82	21	.40	1.82	20	.40	1.82	22	.42	1.91	22	.42	1.91	22
Crackers.....	.19		40	.21		208	.27		217	.28		211	.27		201	.26		227
Strawberries.....	.13	60	101	.79	.61	107	.83	.64	105	.82	.63	103	.80	.62	105	.82	.63	112
French peas.....	.78		90	.23	2.11	89	.92	2.06	51	.13	1.19	95	.24	2.22	93	.23	2.18	100
Gravy.....	.25		234	.70	3.14	229	.78	3.21	220	.73	3.08	246	.84	3.44	242	.82	3.39	243
Tomato bisque.....	.34	1.40	600	.24		600			200			200	.08		600	.24		400
Coffee.....	.04																	
Total.....			11.45	91.01		11.55	138.87		10.28	87.71		9.01	116.90		11.92	11.87	124.11	
<i>May 25, 1910.</i>																		
Bread.....	1.61	1.00	162	2.61	1.62	180	2.90	1.80	154	2.48	1.54	163	2.62	1.63	148	2.38	1.48	181
Butter.....	.10	88.63	47	.05	41.66	75	.10	90.40	51	.05	45.20	78	.08	69.13	42	.04	37.22	86
Sugar.....			176						36			62			111			79
Milk.....	.53	3.34	125	.66	4.18	325	1.72	10.86	325	1.72	10.86	125	.66	4.18	125	.66	4.18	125
Cream.....	.43	22.33	120	.52	26.80	120	.52	26.80	120	.52	26.80	120	.52	26.80	120	.52	26.80	120
Meat, roast beef.....	5.17	7.97	27	1.40	2.15	27	1.40	2.15	27	1.40	2.15	18	.93	1.43	9	.47	2.66	29
Do.....	4.61	14.01	21	1.06	3.22	21	.97	2.94	28	1.29	3.92	19	.88	2.72	19	.88	2.72	28
Potatoes, baked.....	.52		35	.18		83	.43		81	.42		51	.27		76	.40		56
Potatoes, mashed.....	.45	.33	87	.39	.29	93	.42	.31	123	.55	.41	126	.57	.42	101	.45	.33	116
Scrambled eggs.....	1.70	9.08	102	1.73	9.26	79	1.58	8.44	89	1.51	8.08	108	1.84	9.81	104	1.77	9.44	106
Sliced bananas.....	.14								28	.04		11			78	.11		82
Rice flakes.....	1.18		15	.18		22	.26		20	.24		21	.25		20	.24		23
Radishes.....	.08		32	.03		22	.02		28	.12		94	.12		25	.02		21
Strawberries.....	.13		87	.11		90	.82		89	.12		94	.12		106	.14		106
Gravy.....	.25	2.34	37	.09	.87	44	.11	1.03	41	.10	.96	23	.06	.54	48	.12	.54	48
Do.....	.17	7.74	38	.06	2.94	42	.07	3.25	44	.09	4.02	33	.06	2.55	51	.09	2.55	51
French peas.....	.78	.46	102	.80	.47	116	.90	.53	118	.92	.54	112	.87	.52	118	.92	.54	122
Crackers.....	1.91	8.67	21	.40	1.82	22	.42	1.91	18	.34	1.56	20	.38	1.73	19	.36	1.65	21

Tomato consommé.....	.08	.20	.230	.18	.46	.237	.19	.47	.268	.21	.54	.238	.19	.42	.243	.19	.49
Stewed strawberries.....	.08	.93	.93	.07	.....	.96	.08	.....	.97	.08	.....	.103	.08	.....	.144	.08	.....
Coffee.....	.04	.000	.....	.24	.....	.200	.08	.....	.200	.08	.....	.400	.16	.....	.200	.08	.....
Total.....	.....	.....	.....	10.76	95.74	.....	11.95	101.53	.....	9.69	121.17	.....	9.91	88.59	.....	12.03	133.18
<i>May 26, 1910.</i>																	
Bread.....	1.39	.99	181	2.52	1.79	174	2.04	1.46	175	2.43	1.73	116	2.03	1.45	172	2.39	1.70
Butter.....	.10	88.63	60	.06	53.18	83	.08	46.97	97	.09	83.31	47	.05	41.66	89	.09	78.88
Sugar.....	.....	.....	162	.....	.....	46	.....	.....	37	.....	.....	101	.....	.....	52	.....	4.29
Milk.....	.55	3.43	125	.69	4.29	325	1.79	11.15	125	.69	4.29	125	.69	4.29	125	.69	4.29
Cream.....	.44	22.63	120	.53	27.04	120	.53	27.04	120	.53	27.04	120	.53	27.04	120	.53	27.04
Meat, pork chops.....	5.11	15.97	22	1.12	3.51	32	1.28	3.90	21	.88	3.44	13	.88	2.08	35	1.28	3.99
Do.....	4.19	16.40	27	1.13	4.43	35	1.34	5.25	29	1.22	4.40	13	.88	2.62	29	1.22	4.76
Potatoes, mashed.....	.43	3.40	103	.44	3.50	120	.45	4.08	113	.49	3.16	95	.45	2.22	117	.49	4.22
Potatoes, baked.....	.36	.....	69	.....	.....	69	.....	.....	81	.20	.....	95	.35	.....	110	.40	.....
Plain omelet.....	1.93	10.23	83	1.60	8.49	78	1.51	7.98	84	1.62	8.59	86	1.64	8.70	107	2.07	10.95
Oranges.....	.20	.....	118	.24	.....	96	.19	.....	91	.18	.....	86	.17	.....	30	.34	.....
Corn flakes.....	1.12	.91	19	.21	.....	28	.31	10.05	23	.26	.....	26	.29	.....	109	.19	10.24
Canned peaches.....	.17	9.39	90	.15	8.54	107	.18	.....	104	.18	9.77	68	.12	6.39	136	.07	.....
Crackers.....	.05	.....	91	.05	.....	96	.05	.....	123	.06	.....	10	.19	.87	12	.23	1.04
Do.....	1.91	8.67	11	.21	95	11	.21	78	11	.21	95	10	.37	2.07	22	.37	2.07
French peas.....	1.69	9.60	22	.37	2.67	23	.39	2.16	24	.41	2.26	22	.37	2.07	22	.37	2.07
Tomato soup.....	.80	1.42	114	.91	1.62	107	.86	1.52	118	.94	1.68	134	1.07	1.90	131	1.05	1.86
Stewed rhubarb.....	.10	.16	223	.23	.36	263	.27	.42	257	.26	.41	32	.13	.21	250	.25	.40
Coffee.....	.06	.....	78	.05	.....	96	.06	.....	97	.06	.....	92	.06	.....	126	.08	.....
Total.....	.04	.000	.....	10.75	119.77	.....	10.66	109.24	.....	9.60	146.63	.....	9.55	101.05	.....	11.94	151.44
<i>May 27, 1910.</i>																	
Bread.....	1.43	1.23	134	1.92	1.65	197	2.82	2.42	181	2.59	2.23	167	2.39	2.05	160	2.29	1.97
Butter.....	.10	88.26	47	.05	41.48	102	.10	90.03	93	.09	82.08	53	.05	46.78	81	.08	71.49
Sugar.....	.....	.....	146	.....	.....	75	.....	.....	64	.....	.....	99	.....	.....	111	.....	.....
Milk.....	.53	3.45	125	.66	4.31	325	1.72	11.21	125	.66	4.31	125	.66	4.31	125	.66	4.31
Cream.....	.46	20.39	120	.50	24.47	120	.50	24.47	120	.50	24.47	120	.50	24.47	120	.50	24.47
Rollad halbut.....	4.06	.24	79	3.21	.19	65	2.64	.16	69	2.80	.17	64	3.37	.20	69	3.37	.20
Meat, steak.....	5.31	5.17	30	1.59	1.55	28	1.49	1.45	25	1.33	1.29	16	.85	.83	30	1.59	1.55
Potatoes, baked.....	.34	.....	60	.20	.....	111	.38	.....	95	.32	.....	77	.26	.....	91	.31	.....
Potatoes, stewed.....	.41	.....	86	.....	.....	83	.34	.....	70	.29	.....	100	.41	.....	95	.39	.....
Scrambled eggs.....	1.54	7.82	108	1.66	8.45	116	1.79	9.07	103	1.59	8.05	125	1.93	9.78	116	1.79	9.07
Oranges.....	.20	.....	113	.23	.....	121	.24	.....	107	.21	.....	140	.28	.....	104	.21	.....
Rice flakes.....	1.18	.....	15	.18	.....	14	.17	.....	14	.17	.....	18	.21	.....	20	.24	.....
Crackers.....	1.69	9.40	31	.52	2.91	29	.49	3.01	29	.49	2.73	30	.51	2.82	31	.52	2.91
Strawberries.....	.09	.....	159	.14	.....	175	.16	.....	171	.15	.....	162	.15	.....	176	.16	.....
French peas.....	.76	.81	109	.83	.88	112	.85	.91	114	.87	.92	115	.87	.93	122	.93	.99
Gravy.....	.17	9.39	41	.07	3.85	40	.07	3.76	35	.06	3.29	35	.06	3.29	40	.07	3.76
Tomato à la crème.....	.26	1.00	226	.59	2.26	252	.66	2.52	245	.64	2.45	249	.65	2.46	216	.59	2.46
Gravy.....	.20	9.18	48	.10	4.41	52	.10	4.77	55	.11	5.05	51	.10	4.68	47	.09	4.31
Coffee.....	.04	.....	600	.24	.....	200	.08	.....	.....	.....	.....	600	.24	.....	400	.16	.....
Total.....	.....	.....	.....	12.69	96.41	.....	14.52	153.50	.....	11.25	135.58	.....	13.46	102.63	.....	13.35	127.16

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	
May 28, 1910.																		
Bread.....	1.44	1.03	147	1.51	2.58	1.84	143	2.06	1.47	174	2.51	1.79	94	1.35	.97	158	2.28	1.63
Butter.....	.10	88.26	45	.05	39.72	.09	55	.06	48.54	.42	96	.10	84.73	.03	29.13	.75	.08	66.20
Sugar.....			147			56				42			82			60		
Milk.....	.53	3.23	125	.66	4.01	1.72	325	1.72	10.50	125	.66	4.04	125	.66	4.04	125	.66	4.04
Cream.....	.38	20.60	120	.46	24.72	1.72	120	.46	24.72	120	.46	24.72	120	.46	24.72	120	.46	24.72
Meat, steak.....	5.33	5.41	20	1.07	1.08	1.07	20	1.07	1.08	20	1.07	1.08	20	1.07	1.08	20	1.07	1.08
Meat, rump steak.....	5.38	9.28	25	2.32	2.61	1.40	27	1.45	2.51	20	1.08	1.86	26	1.40	2.41	26	1.40	2.41
Potatoes, baked.....	.56		42	.24		.65	139	.78		97	.54		92	.46		131	.73	
Potatoes, stewed.....	.32					.24	98	.31		68	.22		92	.29		103		
Scrambled eggs.....	1.45	5.59	74	1.07	4.14	1.35	92	1.33	5.14	95	1.11	5.14	110	2.22	4.58	103	1.49	5.76
Oranges.....	.20		97	.19		.96	16			15	.17		18	.21		18	.21	
Rice flakes.....	1.16		16	.19		.20	31	.52	2.91	29	.49	2.73	33	.56		33	.56	
Crackers.....	1.69	9.40	29	.49	2.73	.51	31	.52	2.91	29	.49	2.73	33	.56		168	.99	.66
Rice custard.....	.59	.39	67	.40	.26	.89	89	.53	.35	182	1.07	.71	108	.99	.59	128	1.11	.61
French peas.....	.87	.48	109	.95	.52	1.05	118	1.03	.57	121	1.05	.58	123	1.07	.59	128	1.11	.61
Stewed turnips.....	.11	1.77	43	.05	.76	.06	58			58	.06	1.03	70	.08	1.24	83	.17	7.62
Gravy.....	.20	9.18	82	.16	7.53	.18	89		8.17	71	.14	6.52	81	.16	7.44	252	.68	4.89
Potato bisque.....	.27	1.94	255	.69	4.95	.65	262	.71	5.08	247	.67	4.79	254	.69	4.93	400	.16	
Coffee.....	.04		600	.24			400	.16					600	.24				
Total.....				10.38	94.28				11.28	101.79		10.66	138.64	81.56		12.42		123.10
May 29, 1910.																		
Bread.....	1.47	.90	172	2.53	1.55	2.31	157	2.31	1.41	.79	116	1.71	1.04	2.40	1.47	175	2.57	1.58
Butter.....	.10	88.26	72	.07	63.55	.09	88	.09	77.67	45	92	.09	81.20	.07	57.37	83	.08	73.26
Sugar.....			171				101				88					123		
Milk.....	.55	3.07	125	.69	3.84	1.79	325	1.79	9.98	9.98	125	.69	3.84	.69	3.84	125	.69	3.84
Cream.....	.44	20.47	130	.57	26.61	.57	130	.57	26.61	26.61	130	.57	26.61	.57	26.61	130	.57	26.61
Meat, mutton chops.....	3.75	18.70	26	.98	4.86	1.09	29	1.09	5.42		37	.90	5.70	.15	.92	33	.40	6.17
Meat, hash.....	2.42	15.41	34	.82	5.24	.30	32	.90	5.70		37	.90	5.70	.15	.92	40	.97	6.16
Potatoes, baked.....	.42		95	.40		.30	72	.30			57	.24		.24		99	.42	
Do.....	.53		61	.32		.42	80	.42			127	.67	5.98	1.45	7.26	94	1.40	7.03
Scrambled eggs.....	1.49	7.48	88	1.31	6.58	1.36	91	1.36	6.81		80	1.19	5.98	1.45	7.26	86	.17	
Bananas.....	.20		73	.15			17				17	.18		.17		17	.19	
Rice flakes.....	1.12		15	.17		.19	16				16	.18		.19		17	.19	

Daily food chart—Continued.

Date and kind of food.	Nitrogen.	Ether extract.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (F. L. N.).		
			Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.
	Per cent	Per cent	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
<i>May 31, 1910—Con.</i>																				
Sliced tomatoes.....	0.12		163	0.18	0.23	61	0.07		186	0.20	0.26	49	0.06		64	0.08		71	0.09	
Combination soup.....	.17	0.14	163	0.18	0.23	180	0.25		209	.23	0.29	190	.21	0.27	203	.22	0.28	203	.22	0.28
Radishes.....	.17		31	.05		37	.06		37	.06		40	.07		47	.08		47	.08	
Coffee.....	.03		600	.18					200	.06		400	.12		400	.12		400	.12	
Total.....				11.67	91.71		12.79	147.52		12.88	93.24		11.04	126.13		11.96	104.98		11.59	113.84
<i>June 1, 1910.</i>																				
Bread.....	1.50		181	2.72	1.65	190	2.85	1.73	186	2.79	1.69	161	2.42	1.47	191	2.87	1.74	178	2.67	1.62
Butter.....	.11	88.19	76	.08	67.02	51	.11	88.19	30	.06	47.62	33	.11	88.19	90	.10	79.37	78	.09	68.79
Sugar.....			125			325			125			125			78			75		
Milk.....		3.47	115	.65	4.34	51	1.69	11.28	125	.65	4.35	125	.65	4.35	125	.65	4.35	125	.65	4.35
Cream.....	.46	18.54	120	.55	22.25	120	.55	22.25	120	.55	22.25	120	.55	22.25	120	.55	22.25	120	.55	22.25
Meat, pork chops.....	5.07	21.78	23	1.17	5.01	25	1.27	3.45	24	1.22	5.23	20	1.01	4.36	23	1.17	5.01	24	1.22	5.23
Meat, hash.....	3.89	11.85	40	1.56	4.74	37	1.44	4.38							40	1.56	4.74	34	1.32	4.03
Potatoes, baked.....	.57		134	.76		87	.56		119	.68		67	.38		110	.63		78	.44	
Do.....	.46	8.17	82	.38	6.94	100	.46		92	.42		103	.47		119	.55		100	.46	
Scrambled eggs.....	1.56		85	1.35		92	1.46	7.52	88	1.40	7.19	83	1.32	6.78	89	1.42	7.27	84	1.34	6.86
Oranges.....	.22		107	.24		129	.28		114	.25		116	.26		91	.29		90	.29	
Corn flakes.....	1.12		17	.19		18	.20		22	.25		22	.25		26	.30		26	.30	
Crackers.....	1.69	9.40	30	.51	2.82	30	.51	2.82	32	.54	3.01	31	.52	2.91	32	.54	3.01	32	.54	3.01
New onions.....	.23		15	.03		4	.01		88	.08		18	.04		9	.06		83	.07	
Sliced pineapple.....	.09		78	.07		77	.07		88	.08		89	.08		63	.06		83	.07	
French peas.....	.80	.40	123	.98	.49	126	1.01	.50	131	1.05	.52	122	.98	.49	125	1.00	.50	119	.95	.48
Gravy.....	.14	3.37	71	.10	2.39	74	1.10	2.49	42	.06	1.42	42	.06	1.42	39	.05	1.31	78	.11	2.63
Tomato cream.....	.29	1.05	294	.66	2.35	228	.66	2.39	236	.68	2.48	249	.72	2.61	227	.66	2.38	261	.76	2.74
Sliced tomatoes.....	.12					46	.06		65	.08		56	.07		68	.08		58	.07	
Boiled cornstarch.....																				
Boiled custard.....	.67	2.24	109	.73	2.44	95	.64	2.13	105	.70	2.35	104	.70	2.33	115	.77	2.58	113	.76	2.53
Coffee.....	.03		600	.18					200	.06					400	.12		400	.12	
Total.....				12.90	122.44		13.87	151.13		12.50	103.62		10.56	137.15		13.29	134.50		12.41	124.51

June 2, 1910.

Bread.....	1.54	.77	157	2.42	1.21	195	3.00	1.50	191	2.94	1.47	182	2.80	1.40	198	3.05	1.52	166	2.56	1.28
Butter.....	.13	86.81	136	.08	52.09	98	.13	85.07	56	.07	48.61	107	.14	92.89	53	.07	46.01	80	.10	69.45
Milk.....	.52	3.08	125	.05	3.85	525	2.73	16.17	54	2.73	16.17	125	.65	3.85	125	.65	3.85	75		
Cream.....	4.42	19.68	120	.50	23.62	120	.50	23.62	120	.50	23.62	120	1.16	23.62	120	.50	23.62	120	.50	23.62
Meat, rump steak.....	4.48	13.65	36	1.61	4.91	33	1.48	4.50	38	1.70	5.19	26	1.16	3.55	34	1.52	4.64	36	1.61	4.91
Do.....	5.25	15.77	28	1.47	4.42	25	1.31	3.94	27	1.42	4.26	22	1.16	3.47	26	1.37	4.10	27	1.42	4.26
Potatoes, baked.....	.48	15.77	54	.26	4.48	105	.50	4.48	72	.35	4.26	101	1.13	4.48	127	.61	4.10	71	.34	
Do.....	.45	7.9	30	.30	4.48	98	.44	4.53	108	.49	4.26	113	.51	4.48	113	.53	4.26	48	.22	
Strawberries.....	.08	49	84	.07	4.48	85	.07	4.53	88	.07	4.48	86	.07	4.53	87	.07	4.48	95	.08	
Plain omelet.....	1.94	12.03	51	.99	6.14	19	1.26	7.82	70	1.36	8.42	27	1.53	9.50	25	1.67	10.35	67	1.30	8.06
Corn flakes.....	1.12	24	24	.27	2.91	19	.21	2.82	25	.28	2.91	27	1.53	9.50	25	1.67	10.35	67	1.30	8.06
Crackers.....	1.69	9.40	31	.52	2.91	59	.07	2.82	28	.47	2.63	30	.51	2.82	30	.51	2.82	30	.51	2.82
Sliced tomatoes.....	.12	.02	185	.06	.04	223	.07	.04	218	.06	.04	223	.07	.04	218	.06	.04	218	.06	.04
French berry tapioea.....	.80	.40	102	.82	.41	116	.83	.46	113	.80	.45	104	.84	.42	106	.85	.42	117	.81	.47
French peas.....	.18	4.08	80	.14	3.26	92	.17	3.75	111	.40	4.5	98	.18	4.00	173	.35	3.43	83	.15	3.47
Gravy.....	.20	.07	169	.34	.12	182	.36	.13	211	.42	.15	161	.32	.11	400	.12	.12	400	.12	.12
Consume.....	.03		600	.18					200	.06										
Coffee.....																				
Total.....				10.74	102.98		13.74	149.82		13.82	111.01		11.28	145.67		12.43	100.93		10.37	118.53

June 3, 1910.

Bread.....	1.51	1.76	167	2.52	2.94	186	2.81	3.27	195	2.94	3.43	169	2.55	2.97	243	3.67	4.28	147	2.22	2.59
Butter.....	.13	86.81	122	.08	52.05	92	.12	79.87	52	.07	45.14	39	.12	83.34	70	.09	60.77	81	.11	70.32
Milk.....	.55	3.41	125	.09	4.20	325	1.79	11.08	325	1.79	11.08	125	.69	4.26	125	.69	4.26	125	.69	4.26
Cream.....	3.85	17.79	120	.55	21.35	120	1.35	21.35	120	.55	21.35	120	.65	21.35	120	.55	21.35	120	.55	21.35
Boiled halibut.....		.22				61	2.35	.13	37	1.42	.08	75	2.59	.17	76	2.35	.17	74	2.85	.16
Meat, roast leg of mutton.....	4.35	11.93	34	1.48	4.06	29	1.26	3.46	29	1.26	3.46	21	.91	2.51	32	1.39	3.82	27	1.17	3.22
Potatoes, baked.....	.43	.32	69	.30	1.08	108	.46	.56	137	.59	.51	117	.54	.61	97	.42	.42	60	.26	
Potatoes, mashed.....	.46	.32	116	.53	6.77	108	.53	6.77	98	.45	5.86	94	.50	7.95	118	.54	.61	107	.49	.56
Scrambled eggs.....	1.55	8.20	94	1.46	7.71	107	1.66	7.71	108	1.67	8.86	97	1.50	7.95	128	.28	6.97	103	1.60	8.45
Oranges.....	.22		132	.29		130	.29		136	.30		15	.21		128	.28				
Rice flakes.....	1.18	9.40	152	.18		15	.18		16	.19		94	.21		15	.18		17	.20	
Crackers.....	1.69	9.40	30	.51	2.82	29	.49	2.73	29	.49	2.73	30	.51	2.82	30	.51	2.82	30	.51	2.82
Gravy.....	.18	4.08	45	.07	2.46	43	.06	2.35	106	.03	.02	42	.08	2.90	15	.03	.02	117	.03	2.82
Do.....	.15	5.47	45	.07	2.46	43	.06	2.35	106	.03	.02	42	.08	2.90	15	.03	.02	117	.03	2.82
Strawberry tapioea.....	.03	.02	96	.03	.02	93	.03	.02	106	.03	.02	96	.03	.02	97	.03	.02	53	.08	2.90
French peas.....	.80	.40	108	.86	.43	116	.83	.46	117	.80	.45	104	.84	.42	106	.85	.42	117	.81	4.47
Cream of celery.....	.43	2.81	219	.94	6.15	205	.88	5.76	222	.95	6.24	252	1.08	7.08	237	1.02	6.66	217	.87	6.10
Sliced tomatoes.....	.12		60	.07		89	.08		53	.06		98	.09		33	.04		56	.07	
Stewed strawberries.....	.09		80	.07		89	.08		81	.07		98	.09		103	.03		111	.10	
Coffee.....	.03		600	.18					200	.06					400	.12		400	.12	
Total.....				10.21	105.15		14.02	141.73		13.83	103.37		13.34	138.15		14.92	116.31		12.92	124.86

Bananas.....	17	12.95	93	16	84	14	95	16	98	17	69	12
Cream onielet.....	1.83	17	68	1.24	62	1.13	77	1.41	88	1.61	76	1.39
Rice flakes.....	1.19	17	19	23	23	26	19	21	23	26	19	21
Crackers.....	1.69	32	32	54	32	54	31	52	24	41	31	52
Cake.....	1.89	32	32	54	23	20	50	43	60	52	50	43
Strawberry sirup.....	1.05	117	66	118	118	66	133	67	67	63	133	67
Strawberries.....	10	76	68	68	84	68	89	69	85	69	89	69
French peas.....	10	76	68	68	113	92	115	93	115	93	118	96
Gravy.....	21	8.63	69	14	5.95	69	73	15	77	16	83	17
Tomato bisque.....	40	37	189	76	70	75	171	68	168	67	175	70
Ice cream.....	68	8.76	126	86	11.04	120	128	87	101	69	130	88
Cookies.....	1.26	17.09	20	25	3.42	21	20	25	23	29	20	25
Coffee.....	1.63	17	400	12	200	66	20	25	400	12	200	66
Tea.....	.02	200	200	.04	200	.06	200	.04	200	.04	200	.06
Total.....				12.46		12.83		11.07		12.88		11.49
June 6, 1910.												
Bread.....	1.59	1.67	183	2.91	176	2.80	185	2.94	224	3.56	145	2.31
Butter.....	.12	89.08	54	.06	43	.05	102	.12	86	.10	78	.09
Sugar.....	.53	3.08	125	.60	525	2.78	125	.66	88	.66	120	.49
Milk.....	41	22.68	120	49	27.22	120	49	40	120	49	27.22	49
Cream.....	4.63	18.01	31	1.44	30	1.39	29	1.34	36	1.07	36	1.07
Hash, meat.....	5.99	26.50	24	1.44	24	1.44	21	1.26	28	1.08	24	1.44
Meat, steak.....	4.43	40	40	.17	109	4.47	49	.52	115	.48	110	.47
Potatoes, mashed.....	37	8.04	100	1.53	94	1.44	94	.18	84	.31	77	.28
Potatoes, stewed.....	1.53	8.04	100	1.53	94	1.44	94	.18	101	1.55	104	1.59
Scrambled eggs.....	.22	20	20	.24	94	1.44	111	.24	78	.17	102	.22
Corn flakes.....	1.69	9.32	31	.52	32	2.80	31	.52	29	.49	31	.52
Crackers.....	1.16	10	10	16	84	13	108	17	69	18	108	17
Beans.....	10	183	183	16	193	17	204	18	204	18	211	19
Strawberries.....	.09	6.04	90	19	5.98	19	89	17	88	17	99	19
Gravy.....	.81	43	45	.77	101	.82	105	.45	96	.78	41	.88
French peas.....	.08	13	215	.17	222	.18	229	.18	185	.15	216	.17
Vegetable soup.....	.03	600	600	.18	200	.06	200	.06	400	.12	400	.12
Coffee.....												
Total.....				11.23		13.48		11.49		12.89		10.63
June 7, 1910.												
Bread.....	1.51	1.13	180	2.72	181	2.73	179	2.70	292	3.05	164	2.48
Butter.....	.12	89.08	78	.09	57	.07	71	.13	93	.11	98	.11
Sugar.....	.52	3.13	125	.65	525	2.73	125	.65	112	.65	125	.65
Milk.....	40	19.57	120	48	23.48	2.73	120	48	120	.68	120	.68
Cream.....	4.90	6.88	27	1.32	34	1.67	21	1.03	31	1.32	28	1.37
Meat, steak.....	5.10	19.07	26	1.33	26	1.33	20	1.02	31	1.58	33	1.68
Meat, roast beef.....	.38	87	87	.33	119	.45	98	.37	145	.50	98	.37
Potatoes, baked.....	.41	41	96	.39	99	.41	69	.28	150	.52	101	.41
Do.....	1.48	7.09	85	1.26	72	1.07	75	1.11	81	1.20	78	1.15
Scrambled eggs.....												
Total.....												
June 7, 1910.												
Bread.....	1.51	1.13	180	2.72	181	2.73	179	2.70	292	3.05	164	2.48
Butter.....	.12	89.08	78	.09	57	.07	71	.13	93	.11	98	.11
Sugar.....	.52	3.13	125	.65	525	2.73	125	.65	112	.65	125	.65
Milk.....	40	19.57	120	48	23.48	2.73	120	48	120	.68	120	.68
Cream.....	4.90	6.88	27	1.32	34	1.67	21	1.03	31	1.32	28	1.37
Meat, steak.....	5.10	19.07	26	1.33	26	1.33	20	1.02	31	1.58	33	1.68
Meat, roast beef.....	.38	87	87	.33	119	.45	98	.37	145	.50	98	.37
Potatoes, baked.....	.41	41	96	.39	99	.41	69	.28	150	.52	101	.41
Do.....	1.48	7.09	85	1.26	72	1.07	75	1.11	81	1.20	78	1.15
Scrambled eggs.....												
Total.....												
June 7, 1910.												
Bread.....	1.51	1.13	180	2.72	181	2.73	179	2.70	292	3.05	164	2.48
Butter.....	.12	89.08	78	.09	57	.07	71	.13	93	.11	98	.11
Sugar.....	.52	3.13	125	.65	525	2.73	125	.65	112	.65	125	.65
Milk.....	40	19.57	120	48	23.48	2.73	120	48	120	.68	120	.68
Cream.....	4.90	6.88	27	1.32	34	1.67	21	1.03	31	1.32	28	1.37
Meat, steak.....	5.10	19.07	26	1.33	26	1.33	20	1.02	31	1.58	33	1.68
Meat, roast beef.....	.38	87	87	.33	119	.45	98	.37	145	.50	98	.37
Potatoes, baked.....	.41	41	96	.39	99	.41	69	.28	150	.52	101	.41
Do.....	1.48	7.09	85	1.26	72	1.07	75	1.11	81	1.20	78	1.15
Scrambled eggs.....												
Total.....												
June 7, 1910.												
Bread.....	1.51	1.13	180	2.72	181	2.73	179	2.70	292	3.05	164	2.48
Butter.....	.12	89.08	78	.09	57	.07	71	.13	93	.11	98	.11
Sugar.....	.52	3.13	125	.65	525	2.73	125	.65	112	.65	125	.65
Milk.....	40	19.57	120	48	23.48	2.73	120	48	120	.68	120	.68
Cream.....	4.90	6.88	27	1.32	34	1.67	21	1.03	31	1.32	28	1.37
Meat, steak.....	5.10	19.07	26	1.33	26	1.33	20	1.02	31	1.58	33	1.68
Meat, roast beef.....	.38	87	87	.33	119	.45	98	.37	145	.50	98	.37
Potatoes, baked.....	.41	41	96	.39	99	.41	69	.28	150	.52	101	.41
Do.....	1.48	7.09	85	1.26	72	1.07	75	1.11	81	1.20	78	1.15
Scrambled eggs.....												
Total.....												
June 7, 1910.												
Bread.....	1.51	1.13	180	2.72	181	2.73	179	2.70	292	3.05	164	2.48
Butter.....	.12	89.08	78	.09	57	.07	71	.13	93	.11	98	.11
Sugar.....	.52	3.13	125	.65	525	2.73	125	.65	112	.65	125	.65
Milk.....	40	19.57	120	48	23.48	2.73	120	48	120	.68	120	.68
Cream.....	4.90	6.88	27	1.32	34	1.67	21	1.03	31	1.32	28	1.37
Meat, steak.....	5.10	19.07	26	1.33	26	1.33	20	1.02	31	1.58	33	1.68
Meat, roast beef.....	.38	87	87	.33	119	.45	98	.37	145	.50	98	.37
Potatoes, baked.....	.41	41	96	.39	99	.41	69	.28	150	.52	101	.41
Do.....	1.48	7.09	85	1.26	72	1.07	75	1.11	81	1.20	78	1.15
Scrambled eggs.....												
Total.....												
June 7, 1910.												
Bread.....	1.51	1.13	180	2.72	181	2.73	179	2.70	292	3.05	164	2.48
Butter.....	.12	89.08	78	.09	57	.07	71	.13	93	.11	98	.11
Sugar.....	.52	3.13	125	.65	525	2.73	125	.65	112	.65	125	.65
Milk.....	40	19.57	120	48	23.48	2.73	120	48	120	.68	120	.68
Cream.....	4.90	6.88	27	1.32	34	1.67	21	1.03	31	1.32	28	1.37
Meat, steak.....	5.10	19.07	26	1.33	26	1.33	20	1.02	31	1.58	33	1.68
Meat, roast beef.....	.38	87	87	.33	119	.45	98	.37	145	.50	98	.37
Potatoes, baked.....	.41	41	96	.39	99	.41	69	.28	150	.52	101	.41
Do.....	1.48	7.09	85	1.26	72	1.07	75	1.11	81	1.20	78	1.15
Scrambled eggs.....												
Total.....												
June 7, 1910.												
Bread.....	1.51	1.13	180	2.72	181	2.73	179	2.70	292	3.05	164	2.48
Butter.....	.12	89.08	78	.09	57	.07	71	.13	93	.11	98	.11
Sugar.....	.52	3.13	125	.65	525	2.73	125	.65	112	.65	125	.65
Milk.....	40	19.57	120	48	23.48	2.73	120	48	120	.68	120	.68
Cream.....	4.90	6.88	27	1.32	34	1.67	21	1.03	31	1.32	28	1.37
Meat, steak.....	5.10	19.07	26	1.33	26	1.33	20	1.02	31	1.58	33	1.68
Meat, roast beef.....	.38	87	87	.33	119	.45	98	.37	145	.50	98	.37
Potatoes, baked.....	.41	41	96	.39	99	.41	69	.28	150	.52	101	.41
Do.....	1.48	7.09	85	1.26	72	1.07	75	1.11	81	1.20	78	1.15
Scrambled eggs.....												
Total.....												
June 7, 1910.												
Bread.....	1.51	1.13	180	2.72	181	2.73	179	2.70	292	3.05	164	2.48
Butter.....	.12	89.08	78	.09	57	.07	71	.13	93	.11	98	.11
Sugar.....	.52	3.13	125	.65	525	2.73	125	.65	112	.65	125	.65
Milk.....	40	19.57	120	48	23.48	2.73	120	48	120	.68	120	.68
Cream.....	4.90	6.88	27	1.32	34	1.67</						

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Ether Ex-tract.	Amount of food.	Nitrogen.	Ether Ex-tract.	Amount of food.	Nitrogen.	Ether Ex-tract.	Amount of food.	Nitrogen.	Ether Ex-tract.	Amount of food.	Nitrogen.	Ether Ex-tract.	Amount of food.	Nitrogen.	Ether Ex-tract.	Amount of food.
<i>June 7, 1910—Con.</i>	<i>Per cent</i>		<i>Grams.</i>															
Dates.....	0.30		58	0.16		17	0.14		45	0.18		60	0.15		51	0.18		61
Corn flakes.....	1.22		38	.22		17	.21		16	.20		16	.23		19	.24		20
Crackers.....	1.69	9.32	30	.51	2.80	30	.51	2.80	30	.54	2.98	32	.51	2.80	31	.52	2.89	31
Strawberries.....	.11		174	.19		183	.20		179	.19		175	.21		190	.24		215
Radishes.....	.10		37	.04		42	.04		20	.03		34	.04		39	.03		29
Gravy.....	.15	2.31	76	.11	1.76	89	.13	2.06	103	.14	2.19	95	.13	2.06	89	.14	2.19	95
French peas.....	.81	.43	103	.85	.45	105	.85	.45	103	.87	.46	104	.84	.45	110	.89	.47	110
Tomato soup.....	.12	.17	228	.27	.39	239	.28	.40	254	.29	.41	243	.25	.35	208	.24	.35	203
Cold slaw.....	.21		24	.05		21	.04		24	.05		22	.05		23	.05		25
Coffee.....	.03		600	.18		600	.06		200	.05		22	.12		400	.12		400
Total.....				11.13	117.14		13.02	122.80		10.26	143.12		12.29	131.95		11.35		133.52
<i>June 8, 1910.</i>																		
Bread.....	1.55	1.11	164	2.54	1.82	174	2.70	1.93	176	2.73	1.95	176	2.88	2.06	186	2.14	1.53	138
Butter.....	.10	82.95	88	.09	73.00	108	.11	89.59	58	.06	48.11	119	.07	58.07	70	.09	75.48	91
Sugar.....	.52	3.32	116	.65	4.15	525	.73	4.73	17	.73	4.15	125	.65	4.15	125	.65	4.15	120
Milk.....	.43	21.49	120	.52	25.79	120	.52	25.79	120	.52	25.79	120	.52	25.79	120	.52	25.79	120
Cream.....	3.97	16.93	31	1.23	5.25	29	1.15	4.91	30	1.19	5.08	22	.87	3.72	30	1.19	5.08	34
Meat, fresh pork.....	5.51	15.67	89	2.51	3.92	24	1.32	3.76	30	1.65	4.70	19	1.05	2.98	26	1.43	4.07	27
Meat, roast pork.....	.37		89	.46		94	.49		99	.51		99	.51		139	.72		76
Potatoes, baked.....	.80		80	.30		80	.27		74	.27		80	.30		113	.36		98
Do.....	.37		80	.30		80	.27		74	.27		80	.30		113	.36		98
Scrambled eggs.....	1.51	7.96	98	1.48	7.80	104	1.57	8.28	107	1.62	8.52	103	1.56	8.20	101	1.53	8.04	111
Oranges.....	.20		18	.20		86	.17		87	.17		87	.17		108	.22		108
Rice flakes.....	1.12		18	.30		19	.21		19	.21		19	.21		21	.24		21
Crackers.....	1.69	9.32	31	.52	2.89	32	.54	2.98	32	.54	2.98	31	.52	2.98	32	.54	2.98	32
New onions.....	.81		16	.02		12	.02		17	.02		17	.03		18	.03		18
French peas.....	.72	.43	111	.90	.48	97	.79	.42	103	.83	.44	99	.80	.46	106	.86	.46	101
Cornstarch custard.....	.14	.50	232	1.67	1.16	185	1.33	.93	166	1.20	.83	160	1.15	.80	167	1.20	.84	181
Gravy.....	.10	4.54	85	.12	3.86	103	.14	4.68	85	.12	3.86	85	.12	3.86	85	.12	3.86	88
Tomato consommé.....	.14	.12	225	.23	.27	215	.22	.26	232	.23	.28	227	.23	.27	226	.23	.27	237
Cake.....	.80	16.16	39	.31	6.30	38	.30	6.14	39	.31	6.30	39	.31	6.30	41	.33	6.63	41
Coffee.....	.03		600	.18		600	.06		200	.06		200	.12		400	.12		400
Total.....				12.99	136.69		14.61	167.10		14.66	122.41		13.30	122.30		12.39		140.78

June 9, 1910.

Bread.....	1.66	52	151	2.51	.79	103	3.20	1.00	183	3.04	.95	170	2.82	.88	201	3.34	1.05	142	2.36	.74
Butter.....	.10	82.95	166	.07	54.75	92	.09	76.31	50	.65	41.48	102	.10	84.61	78	.08	64.70	80	.08	66.36
Milk.....																				
Cream.....	.52	3.07	125	.65	3.84	325	2.73	16.12	325	2.73	16.12	72	.65	3.84	125	.65	3.84	95	.65	3.84
Meat, hash.....	5.13	13.63	110	.48	21.88	110	1.49	3.95	27	1.39	3.68	110	.48	21.88	110	.48	21.88	110	.48	21.88
Do.....	4.47	11.38	23	1.28	3.41	29	1.25	3.19	33	1.48	3.76	16	.72	1.82	28	1.44	3.82	31	1.59	4.23
Potatoes, mashed.....	.38	.20					110	.42	.22	.48	.25	107	.41	.21	120	.46	.24	114	.43	.23
Potatoes, baked.....	.47		69	.32		94	.44		86	.40		143	.67		143	.67		88	.41	
Scrambled eggs.....	1.44	6.88	126	1.18	5.64	92	1.32	6.33	92	1.32	6.33	96	1.38	6.60	93	1.34	6.40	98	1.41	6.74
Bananas.....	1.16		82	.20		154	.25		140	.22		140	.22		128	.20		120	.19	
Rice flakes.....	1.22		16	.20		21	.26		24	.29		19	.23		22	.27		24	.29	
Crackers.....	1.69	9.32	33	.56	3.08	30	.51	2.80	32	.54	2.98	33	.56	2.98	33	.56	2.98	31	.52	2.89
Apples.....	.05		113	.06		120	.06		116	.06		138	.07		140	.07				
Sliced tomatoes.....	.16					98	.16		94	.15		95	.15		99	.16		110	.18	
French peas.....	.81	.43	79	.64	.34	85	.69	.37	87	.70	.37	73	.59	.31	77	.62	.33	78	.63	.34
Gravy.....	.14	4.54	80	.11	3.63	80	.11	3.63	81	.11	3.68	84	.11	3.68	84	.11	3.68	81	.11	3.68
Vegetable soup.....	.24	.21	232	.56	.49	231	.55	.49	231	.55	.49	118	.13	.51	272	.65	.57	265	.64	.56
Strawberries.....	.11		88	.10		106	.12		117	.13		118	.13		121	.13		113	.12	
Coffee.....	.03		600	.18		200	.06		200	.06					400	.12		400	.12	
Total.....				10.62	101.72		14.13	136.29		14.07	98.29		10.98	130.32		13.01	113.93		11.42	114.56

June 10, 1910.																				
Bread.....	1.52	.96	151	2.30	1.45	180	2.74	1.73	172	2.61	1.65	154	2.34	1.48	177	2.69	1.70	131	1.99	1.26
Butter.....	.10	82.95	79	.08	65.53	95	.10	78.80	52	.05	43.13	112	.11	92.90	68	.07	56.41	90	.09	74.66
Sugar.....																				
Milk.....	.51	2.98	115	.64	3.73	325	2.68	15.65	325	2.68	15.65	53	.64	3.73	125	.64	3.73	125	.64	3.73
Cream.....	.43	20.80	120	.52	24.96	120	.52	24.96	120	.52	24.96	120	.52	24.96	120	.52	24.96	120	.52	24.96
Boiled ham.....	4.41	.64				93	4.10	.60	57	2.51	.36	118	5.20	.76	76	3.35	.40	89	29	1.44
Meat, roast beef.....	4.97	4.49	30	1.49	1.35	30	1.64	1.48	30	1.49	1.35	19	.94	.85	33	1.64	1.48	29	1.44	1.30
Potatoes, baked.....	.40		61	.24		75	.30		80	.32		122	.49		121	.45		103	.41	
Do.....	.37		102	.38		141	.52		80	.30		116	.43		121	.45		100	.37	
Plain omelet.....	1.73	13.67	74	1.28	10.12	77	1.33	10.53	70	1.21	9.57	112	.22	10.94	91	1.57	12.44	90	1.56	12.30
Oranges.....	.20		103	.21		17	.19		94	.19		112	.22		107	.21		20	.22	
Corn flakes.....	1.00		17	.19		21	.23		20	.22		20	.22		20	.22		20	.22	
Crackers.....	1.69	9.32	31	.52	2.89	32	.54	2.98	31	.52	2.89	32	.54	2.98	30	.51	2.80	33	.52	2.89
Gravy.....	.19	8.85	42	.08	3.72	47	.09	4.16				88	.15	7.79	78	.15	6.90	83	.16	7.35
Sliced pineapples.....	.16					61	.10		47	.08		50	.08		45	.08		44	.07	
French peas.....	.81	.43	85	.69	.37	82	.66	.35	86	.70	.37	89	.72	.38	82	.66	.35	86	.70	.37
Vegetable soup.....	.28		39	.28		123	.34		48	.30		95	.27		115	.32		105	.29	
Tomato bisque.....	.30	.67	103	.31	.69	105	.32	.70	104	.31	.70	97	.29	.65	96	.29	.64	100	.64	.68
Cookies.....	1.15	8.27	19	.22	3.14	23	.26	3.80	22	.25	3.64	23	.26	3.80	23	.22	3.80	22	.25	3.64
Coffee.....	.04		600	.24		200	.08		200	.08					400	.24		400	.16	
Total.....				9.80	118.34		16.70	146.22		14.46	104.66		14.95	151.59		14.31	116.15		13.74	131.12

Jelly oncelot.....	1.65	11.33	69	1.14	7.82	88	1.45	9.97	.76	1.25	8.61	76	1.25	8.61	80	1.32	9.96	75	1.24	8.50
Oranges.....																				
Rice flakes.....	1.20		84	10		103	.20		91	.17		91	.17			.05	.20	108	.21	
Shorlokato.....	1.18		14	17		12			15	.18		4			10	.12		12	.14	
Crackers.....	1.69	33.67	69	81	23.23	78	.62	26.26	66	.78	22.22	30	.85	24.24	16	.27	22.90	72	.85	24.24
French peas.....	.75	40	80	.65	.34	88	.66	.35	88	.66	.35	86	.65	.34	45	.18	.40	42	.16	.09
Stewed strawberries.....	.16		155	.25		173	.28		186	.30		159	.25			.27	.39	184	.29	
Gravy.....	.26	5.18	79	.21	4.09	86	.22	4.45	92	.24	.75	92	.24	4.77	87	.23	4.51	99	.26	5.13
Consume.....	.08	.34	207	.17	.70	212	.17	.72	221	.18		235	.19			.17	.71	215	.17	.73
Coffee.....	.04		600	.24					200	.08					400	.16		400	.16	
Total.....				10.29	122.28		13.42	109.71		10.38	102.26		10.00	155.91		11.79	138.80		11.09	150.70
June 13, 1910.																				
Bread.....	1.66	1.40	100	2.66	2.24	176	2.92	2.46	175	2.91	2.45	179	2.97	2.51	199	3.30	2.79	182	3.02	2.55
Butter.....	.13	88.26	203	.08	53.84	95	.12	83.85	43	.06	41.48	108	.14	95.32	105	.14	92.67	89	.12	78.55
Sugar.....	.54	3.33	125	.68	4.16	625		17.48	125	.68	17.48	125	.68	4.16	110	.68	4.16	125	.68	4.16
Milk.....	.43	21.05	120	.62	25.26	120	.62	25.26	120	.52	25.26	120	.52	25.26	120	.52	25.26	120	.52	25.26
Hash, meat.....	4.26	18.58	30	1.28	5.57	30		5.57	18	.77	3.36	18	.77	3.36	32	1.36	5.51	28	1.19	5.20
Do.....	4.89	20.41	24	1.27	4.90				30	1.28	5.51	17	.77	3.36	27	1.32	5.51	36	1.76	7.35
Potatoes, baked.....	.43		50	.22		110	.47		74	.32		82	.35		142	.61		108	.29	
Do.....	.45		69	.31		110	.50		93	.42		116	.52		123	.55		100	.45	
Scrambled eggs.....	1.48	8.07	87	1.29	7.02	81	.20	6.54	98	1.45	7.91	98	1.45	7.91	95	1.41	7.67	86	1.27	6.94
Sliced tomatoes.....	.19		57	.11		70	.13		73	.14		79	.15		79	.15		91	.17	
Rice flakes.....	1.20		12	.14		15	.18		14	.17		12	.14		17	.20		15	.18	
Crackers.....	1.69	9.32	15	.25	1.40	16	.27	1.49	15	.25	1.49	15	.25	1.40	16	.27	1.49	15	.25	1.40
French peas.....	.75	40	79	.59	.32	94	.71	.38	96	.72	.38	94	.71	.38	92	.69	.37	93	.70	.37
Strawberries.....	1.13		181	.24		203	.26		203	.26		213	.28		200	.26		216	.28	
New onions.....	.11		20	.02					18	.02		18	.02		18	.02		23	.03	
Gravy.....	.26	5.18	88	.23	4.56	234	.14	.51	228	.14	.51	228	.14	.50	22	.01	.05	242	.15	.53
Beef soup.....	.00	.22	300	.12	.44				32	.03		32	.03		35	.03		31	.02	
Radishes.....	.08		32	.03		39	.03		200	.08					400	.16		200	.08	
Coffee.....	.04		600	.24																
Total.....				10.18	109.71		10.29	137.97		12.95	108.04		10.04	147.62		11.87	149.65		11.37	136.45
June 14, 1910.																				
Bread.....	1.59	.96	106	2.04	1.59	157	2.50	1.51	142	2.26	1.36	169	2.09	1.62	208	3.31	2.00	181	2.88	1.74
Butter.....	.15	88.62	66	.10	58.49	75	.11	66.47	41	.06	36.33	99	.15	87.73	71	.11	62.92	97	.15	85.96
Sugar.....	.51	2.96	150	.64	3.70	525	2.68	15.54	525	.64	15.54	125	.64	3.70	125	.64	3.70	125	.64	3.70
Milk.....	.39	19.20	120	.47	23.04	120	.47	23.04	120	.47	23.04	120	.47	23.04	120	.47	23.04	120	.47	23.04
Cream.....	5.03	7.56	24	1.21	1.81				27	1.36	2.04	16	.80	1.21	32	1.61	2.42	27	1.36	2.04
Meat, roast, beef.....	5.28	7.61	31	1.64	2.36	30	1.68	2.28	28	1.48	2.13	23	1.21	1.75	31	1.64	2.36	32	1.69	2.44
Do.....	.42	.74	91	.38	.67	98	.41	.73	111	.47	.82	100	.42	.74	112	.47	.83	96	.40	.71
Potatoes, mashed.....	.39					79	.31		95	.37		89	.35		120	.47		88	.34	
Potatoes, boiled.....	.79	7.89	94	1.48	7.42	90	1.41	7.10	95	1.49	7.50	87	1.37	6.86	91	1.43	7.18	82	1.29	6.47
Scrambled eggs.....	1.57	19	15	.17		110	.21	.17	84	.16		101	.19		92	.17		135	.26	
Oranges.....	1.23		91	.18		15	.18		16	.20		13	.16		14	.17		15	.18	

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Per cent Nitrogen.	Ether extract.	Amount of food.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.
<i>June 14, 1910—Con.</i>																		
Crackers.....	1.69	9.32	16	13	0.27	1.49	15	0.25	1.40	15	0.25	1.40	13	0.22	1.21	14	0.24	1.30
Do.....	1.62	8.53	15	16	0.24	1.28	16	0.26	1.36	16	0.26	1.36	16	0.26	1.21	16	0.26	1.36
Strawberry tapioca.....	0.03	0.05	170	0.05	0.09	198	0.06	0.11	214	0.06	0.11	220	0.06	0.11	223	0.07	0.11	0.11
Radiishes.....	12	34	04	28	03	34	25	03	24	03	24	03	24	03	27	03	27	03
French peas.....	75	40	86	65	65	34	91	68	36	93	68	36	100	75	40	95	71	38
Gravy.....	13	3.22	88	11	2.83	177	20	20	46	188	35	3.06	96	12	3.09	91	12	2.93
Tomato soup.....	10	23	185	19	43	177	20	20	46	188	35	3.06	96	12	3.09	91	12	2.93
Boiled spinach.....	51	04	400	60	31	177	20	20	46	188	35	3.06	96	12	3.09	91	12	2.93
Coffee.....	04	04	400	60	31	177	20	20	46	188	35	3.06	96	12	3.09	91	12	2.93
Tea.....	02	04	200	200	08	200	200	08	200	200	08	200	200	08	200	200	08	200
Total.....			10.97	105.54		11.25	120.09		12.56	92.45	10.41	133.37		12.65	111.07		11.75	132.61
<i>June 15, 1910.</i>																		
Bread.....	1.48	1.57	107	166	1.58	66.47	42	06	2.31	2.45	2.46	2.61	201	2.97	3.16	142	2.10	2.23
Butter.....	1.15	88.62	75	80	11	70.90	156	06	37.22	37.22	17	98.37	111	13	76.21	100	15	88.62
Sugar.....	55	3.33	125	97	69	4.16	52	2.89	17.48	17.48	69	4.16	125	69	4.16	73	69	4.16
Milk.....	44	19.85	120	120	53	23.82	120	53	23.82	23.82	53	23.82	120	53	23.82	120	53	23.82
Cream.....	5.07	8.91	23	28	1.17	2.05	28	1.42	2.49	2.49	86	1.51	29	1.47	2.58	31	1.57	2.76
Meat, roast beef.....	4.91	8.94	26	28	1.28	2.32	28	1.37	2.50	2.50	1.08	1.97	29	1.42	2.59	33	1.62	2.95
Meat, veal cutlets.....	43	31	57	94	25	40	91	39	2.41	2.41	48	1.97	105	43	2.59	101	43	2.95
Potatoes, baked.....	49	30	31	35	15	6.70	39	19	1.33	1.33	19	1.33	31	15	1.33	52	25	25
Do.....	1.62	9.30	72	68	1.17	6.70	83	1.34	7.72	7.72	19	7.63	86	15	8.00	99	16	9.21
Scrambled eggs.....	1.24	32	133	147	32	147	149	36	146	146	35	146	150	36	146	146	35	146
Red raspberries.....	1.23	10	10	14	12	17	15	18	14	17	17	14	10	12	14	15	18	18
Rice flakes.....	1.62	8.53	33	31	53	2.81	33	53	2.81	2.81	52	2.73	32	52	2.73	33	52	2.81
Cookies.....	1.15	16.90	39	47	45	7.97	43	52	7.63	7.63	52	7.63	45	52	7.63	45	52	7.63
Radiishes.....	1.12	32	04	32	04	24	65	49	26	26	52	26	26	52	26	26	52	26
French peas.....	75	40	82	60	65	34	91	68	36	93	68	36	100	75	40	95	71	38
Gravy.....	13	3.22	41	178	05	1.32	191	29	1.60	1.60	53	1.60	36	53	1.60	49	53	1.60
Purée of vegetable.....	13	84	154	06	23	1.29	65	02	1.03	1.03	52	1.03	174	26	1.22	178	27	1.58
Strawberry tapioca.....	03	05	70	06	02	04	200	08	0.60	0.60	02	0.60	82	02	04	82	02	04
Coffee.....	04	04	600	24	24	04	200	08	0.60	0.60	02	0.60	400	16	04	200	08	0.60
Total.....			9.40	119.52		11.38	136.01		12.93	105.92	10.31	153.68		11.25	127.57		11.45	147.56

June 16, 1910.																					
Bread.....	1.65	1.18	132	2.18	1.56	186	3.07	2.19	170	2.81	2.01	171	2.82	2.02	185	3.05	2.18	167	2.76	1.97	59.38
Butter.....	.15	88.62	59	.09	52.29	62	.09	54.94	40	.06	35.45	91	.14	80.64	67	.10	60.26	67	.10	59.38	
Sugar.....			121			105			72		75				103			103			
Milk.....	.50	4.52	125	.63	5.65	125	.63	5.65	125	.63	5.65	125	.63	5.65	125	.63	5.65	125	.63	5.65	
Cream.....	.43	18.46	80	.34	14.77	120	.52	22.15	120	.52	22.15	120	.52	22.15	120	.52	22.15	120	.52	22.15	
Meat, veal cutlets.....	4.69	9.42	33	1.55	3.11	30	1.41	2.83	34	1.50	3.20	20	.94	1.88	31	1.45	2.92	33	1.55	3.11	
Do.....	5.42	8.82	35	1.90	3.09	31	1.68	2.73	31	1.68	2.73	21	1.14	1.85	30	1.95	3.18	30	1.63	2.65	
Potatoes, mashed.....	.43	.42	93	.40	.39	101	.43	.42	100	.47	.46	93	.40	.39	86	.37	.36	105	.45	.44	
Potatoes, boiled.....	1.44	7.54	80	1.15	6.03	104	.29	7.84	84	1.21	6.33	81	.29	6.11	84	.42	.36	80	.40	7.39	
Scrambled eggs.....	.18		127	.23		122	.22					101	.18		141	.25		98	1.41	7.39	
Oranges.....	1.16		14	.16		16	.19		14	.16		14	.16		16	.19		16	.19		
Rice flakes.....	1.02	8.53	33	.53	2.81	33	.53	2.81	32	.52	2.73	30	.49	2.56	27	.44	2.30	32	.52	2.73	
Crackers.....	.13		89	.12		92	.12		84	.11		99	.13		94	.12		98	.13		
Strawberries.....	.11	1.91	75	.08	1.43							82	.10	1.57	89	.10	1.70	89	.10	1.70	
Gravy.....	.19					42	.08		44	.08		42	.08		41	.08		42	.08		
Sliced tomatoes.....	.09		28	.03		90	.08		80	.08		82	.07		83	.07		64	.06		
Plums.....	.09					90			80			82			83			64			
French peas.....	.75	.40	64	.48	.26	63	.47	.25	63	.47	.25	71	.53	.28	64	.48	.26	57	.43	.23	
Tomato cream.....	.33	6.77	194	.64	13.13	199	.66	13.47	221	.73	14.96	189	.62	12.80	207	.68	14.01	211	.70	14.28	
Boiled cabbage.....	.19	3.70	70	.13	2.59	75	.14	2.78	75	.14	2.78	77	.15	2.85	80	.15	2.96	82	.16	3.03	
Coffee.....	.04		200	.08			.04		200	.08		400	.04		200	.08		200	.08		
Ice tea.....	.01		400	.04		400	.04		400	.04		400	.04		400	.04		400	.04		
Total.....				10.76	107.11		12.01	118.06		11.87	98.70		10.60	140.75		12.43	124.64		11.94	124.71	
June 17, 1910.																					
Bread.....	1.53	2.09	181	2.77	3.78	178	2.72	3.72	175	2.68	3.66	144	2.20	3.01	188	2.88	3.93	138	2.11	2.88	
Butter.....	.11	87.49	80	.09	69.99	64	.07	55.99	26	.06	46.37	93	.10	81.37	78	.09	68.24	91	.10	79.62	
Sugar.....			104			45			26			17			82			57			
Milk.....	.53	3.46	125	.66	4.33	525	2.78	18.17	525	2.78	18.17	125	.66	4.33	125	.66	4.33	125	.66	4.33	
Cream.....	.44	18.53	120	.53	22.24	120	.53	22.24	80	.35	14.82	120	.53	22.24	120	.53	22.24	120	.53	22.24	
Meat, pork chops.....	4.73	23.75	27	1.28	6.41	25	1.02	5.18	25	1.18	5.94	14	.66	3.33	27	1.28	6.41	33	1.56	7.84	
Do.....	4.87	24.67	29	1.41	7.15	21	1.02	5.18	29	1.41	7.15	21	1.02	5.18	25	1.22	6.17	24	1.17	5.92	
Potatoes, baked.....	.34		47	.16		119	.40		73	.25		96	.33		93	.32		74	.25		
Potatoes, hashed brown.....	.45	5.80	68	.31	3.94	89	.40	5.16	82	.37	4.76	85	.38	4.93	91	.41	5.28	117	.53	6.79	
Plain omelet.....	1.67	12.08	83	1.39	10.03	80	1.34	9.66	73	1.22	8.82	88	1.47	10.63	101	1.69	12.20	93	1.55	11.23	
Oranges.....	.18		94	.17		114	.21		142	.26		77	.14		91	.16		93			
Rice flakes.....	1.16		13	.15		15	.17		16	.19		11	.13		14	.16		19	.22		
Crackers.....	1.62	8.53	30	.49	2.56	32	.52	2.73	32	.52	2.73	32	.52	2.73	14	.23	1.19	34	.55	2.90	
Cake.....	.94	18.58	57	.54	10.59	47	.44	8.73		.62	5.22	55	.52	10.22	60	.56	11.15	44	.41	8.18	
Plums.....	.09					79	.07					74	.07		68	.06		52	.05		
Radishes.....	.10		49	.05		34	.03					54	.05		55	.06		46	.06		
Gravy.....	.16	11.19	82	.13	9.18							92	.15	10.29	48	.08	5.37	99	.16	11.08	
French peas.....	.75	.40	54	.41	.22	63	.47	.25	62	.47	.25	64	.48	.26	65	.49	.26	68	.51	.27	
Bean purée.....	.28	.54	150	.42	.81	174	.49	.94	147	.41	79	150	.42	.81	174	.49	.94	174	.49	.94	
Fudge.....	.39	.22	45	.18	.10	45	.18	.10	44	.17	.10	45	.18	.10	43	.17	.10	41	.16	.09	
Chocolate custard.....	1.06	7.70	58	.61	4.47	62	.66	4.77	71	.75	5.47	86	.91	6.62	86	.91	6.62	80	.85	6.16	
Coffee.....	.04		600	.24					200	.08					400	.16		200	.08		
Total.....				11.99	155.80	12.50	137.64			13.15	119.03		10.92	166.05		12.12	153.48		11.99	170.47	

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Ether ex- tract.	
<i>June 18, 1910.</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	
Bread.....	1.47	1.07	186	2.73	1.99	181	157	2.31	1.63	156	2.29	1.67	164	2.41	1.75	146	1.56	
Butter.....	.11	87.49	65	.07	56.87	60	.07	.06	49.87	97	.11	84.87	60	.07	52.49	67	58.62	
Sugar.....			105			104	38			30			51			59		
Milk.....	.50	2.78	125	.63	3.48	450	2.25	2.25	12.51	250	1.25	6.95	125	.63	3.48	125	3.48	
Cream.....	.42	19.95	120	.50	23.94	120	.50	.50	23.94	120	1.05	23.94	120	.50	23.94	120	23.94	
Meat, roast beef.....	4.76	18.97	37	1.76	7.02	36	1.71	6.83	31	1.48	5.88	22	1.29	5.12	29	1.38	5.50	
Do.....	5.07	19.88	24	1.22	4.77	29	1.47	5.77	17	.86	3.38	25	1.27	4.97	29	1.47	5.77	
Potatoes, baked.....	.41		76	.31		130	.53	.50		123	.50	93	.38	.36	89	64	.26	
Potatoes, hashed brown.....	.29	6.36	84	.24	5.34	82	.82	.26	5.66	86	.25	5.47	95	.28	6.04	111	7.06	
Cream omelet.....	1.64	12.56	51	.84	6.41	66	1.08	1.34	10.30	97	1.59	12.18	84	1.38	10.55	90	11.30	
Bananas.....	.16		124	.20		122	.20						235	.38		98	.16	
Corn flakes.....	1.12		13	.15		13	.15	.18		16	.18		16	.18		19	.21	
Crackers.....	1.62	8.53	33	.53	2.81	32	.52	.52	2.73	32	.52	2.73	31	.50	2.64	31	.50	
Sliced pineapple.....	.10		86	.09		83	.08	.10		94	.09		96	.10		90	.09	
Sliced tomatoes.....	.19		46	.09		55	.10			44	.08		45	.09		53	.10	
Gravy.....	.16	11.19	43	.07	4.81					39	.06	4.36	38	.06	4.25	44	.07	
Do.....	.18	7.06	40	.07	2.82					39	.07	2.75	38	.06	4.25	44	.07	
French peas.....	.63		77	.49	.11	78	.49	.11	.13	86	.54	.12	85	.54	.12	95	.60	
Tomato soup.....	.10	.57	157	.16	.89	183	.18	1.04	1.00	181	.18	1.03	177	.18	1.01	192	1.09	
Plums.....	.09		91	.08		91	.08			86	.08		92	.08		101	.09	
Coffee.....	.04		600	.24				.08		200			200	.08				
Total.....				10.30	121.26		10.83	115.10	11.91	119.47		10.08	153.62	10.38	116.36	10.26	129.12	
<i>June 19, 1910.</i>																		
Bread.....	1.64	1.32	135	2.21	1.78	168	2.76	2.22	2.38	170	2.79	2.24	212	3.48	2.80	123	1.62	
Butter.....	.11	87.49	47	.05	41.12	59	.06	51.62	45.49	91	.10	79.62	62	.07	54.24	58	50.74	
Sugar.....			129			90				61			105			98		
Milk.....	.53	3.08	125	.66	3.85	525	2.78	16.17	3.85	325	1.72	10.01	125	.66	3.85	125	3.85	
Cream.....	.43	17.83	120	.52	21.40	80	.34	14.26	21.40	80	.34	14.26	150	.65	26.75	120	21.40	
Meat, roast leg of mutton.....	4.69	11.22	31	1.45	3.48	30	1.41	3.37	4.04				11	.52	1.23	30	3.37	
Meat, roast leg of lamb.....	4.79	11.69	32	1.53	3.74	29	1.39		3.39				33	1.58	3.86	34	3.97	

Potatoes, mashed....	36	40	36	13	14	89	32	36	108	39	43	85	23	55	20	22	90	32	36
Potatoes, stewed.....	27	13.70	65	1.16	8.91	69	1.24	9.45	74	20	9.86	85	23	87	1.24	9.45	46	.82	.36
Cheese omelet.....	1.79			13			18		72	1.29		22	.25	69	1.24		26	.29	6.30
Corn flakes.....	1.12			15			20		21	.24		69	.15	84	.18		82	.18	
Red raspberries.....	22			14			17		76	.17		22	.15	84	.16		30	.49	2.56
Crackers.....	1.62			50	2.64	76	.52	2.73	31	.50	2.64	69	.49	2.56	1.36	30	48	.19	10.13
Gravy.....	1.19			17	9.51							45	.26	195	7.44	98	218	.28	
Strawberries.....	13			23		169	.22		186	.24		203	.26	122	.17	118	.74	.17	
French peas.....	.63			111	.16	115	.72	.16	136	.86	.19	124	.78	122	.77	179	209	.17	.86
Tonato consommé.....	.08			16	3.80	100	.08	.41	108	.13	.69	194	.16	192	.15	.79	209	.17	.86
Ice cream.....	.72	8.84	91	.66	8.04	90	.65	7.96	200	.08		96	.69	106	9.37	85	200	.08	7.51
Coffee.....	.04			24										200	.08				
Total.....				10.66	105.57		11.47	108.71		11.37	94.36		9.21		11.49	121.53		10.47	112.84
June 20, 1910.																			
Bread.....	1.52	1.02	132	2.01	1.35	126	1.92	1.29	90	1.37	.92	86	1.31	38	.58	.39	126	1.92	1.29
Butter.....	.13	84.70	77	.10	65.22	56	.07	47.43	52	.07	44.04	88	.11	74	.06	38.12	110	.14	93.17
Sugar.....			132		114				35			525		72		3.51	108		
Milk.....	.55	2.81	125	.69	3.51	525	.89	14.75	525	2.89	14.75	525	2.89	125	.69	3.51	125	.69	3.51
Cream.....	.43	19.59	130	.56	25.47	130	.56	25.47	80	.34	15.67	130	.56	130	.56	25.47	130	.56	25.47
Meat, veal cutlets.....	4.79	12.00	28	1.34	3.36	24	1.15	2.88	30	1.44	3.60			15	.72	1.80	30	1.44	3.60
Do.....	4.35	11.77	30	1.31	3.53	32	1.39	3.77	93	.36		91	.35	20	.87	2.35	36	1.57	4.24
Potatoes, baked.....	.39		68	.27		90	.35							97	.38		61	.24	
Potatoes, hashed brown.....	.46	7.62	82	.38	6.25	107	.49	8.15	80	.37	6.10	87	.40	6.63	.38	6.32	93	.43	7.09
Grape jelly.....	.07		43	.03		48	.03		30	.02		45	.03	25	.02		56	.04	
Strawberries.....	.13		98	.13		92	.12		106	.14		113	.15	107	.14		103	.13	
Do.....			104			111								120			114		
Rice flakes.....	1.23		14	.17		15	.18		15	.18		15	.18	14	.17		17	.21	
Crackers.....	1.62	8.53	33	.53	2.81	31	.50	2.64	32	.52	2.73	32	.52	69	.07	37	30	.08	2.56
Sliced pineapple.....	.10		73	.07		90	.09		77	.08		38	.07	44	.03		77	.08	
Radishes.....	.07		38	.03		34	.02		36	.03		38	.03	44	.03		34	.02	
Gravy.....	.19	2.22	91	.17	2.02	140	.88	.20	163	1.03	.23	168	.09	1.00	.12	1.35	91	.17	2.02
French peas.....	.63	.14	156	.98	1.22	218	.28	1.77	163	.28	1.77	238	.31	1.93	.23	236	169	.23	1.83
Potato purée.....	.13	.81	201	.26	1.63	51	.01	1.01	51	1.01	.80	38	.31	1.93	.23	236	169	.23	1.83
Toast.....	1.99	1.56	53	1.05	.83	51	.34	6.57				38	.31	1.93	.23	236	169	.23	1.83
Cake.....	.78	15.27	42	.33	6.41	57	.11					49	.09	35	5.34	40	31	.61	6.11
Sliced tomatoes.....	.19			.30										56	.11		50	.10	
Coffee.....	.05		600											200	.10		200	.10	
Total.....				10.83	122.61		12.50	115.72		10.13	90.61		9.82		8.28	87.17		11.06	151.86
Vomitus, H. W. A.																			
June 21, 1910.																			
Bread.....	1.55	2.00	158	2.45	3.16	188	2.91	3.76	153	2.37	3.06	104	1.61	183	2.84	3.66	136	2.11	2.72
Butter.....	.13	84.70	78	.10	66.07	34	.08	74.54	52	.07	44.04	80	.10	67.76	.09	60.14	81	.11	68.61
Sugar.....			149						35			9		30			63		
Milk.....	.53	3.52	125	.66	4.40	525	2.78	78.48	525	2.78	18.48	525	2.78	18.48	.66	4.40	125	.66	4.40
Cream.....	.42	21.02	70	.29	14.71	100	.42	21.02	100	.42	21.02	40	.17	100	.42	21.02	100	.42	21.02

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Per cent Ether extract.	Amount of Nitrogen.	Grams. Ether ex- tract.	Amount of Nitrogen.	Grams. Ether ex- tract.	Amount of Nitrogen.	Grams. Ether ex- tract.	Amount of Nitrogen.	Grams. Ether ex- tract.	Amount of Nitrogen.	Grams. Ether ex- tract.	Amount of Nitrogen.	Grams. Ether ex- tract.	Amount of Nitrogen.	Grams. Ether ex- tract.	Amount of Nitrogen.	Grams. Ether ex- tract.
<i>June 21, 1910—Con.</i>																		
Meat, roast leg of veal.	4.24	11.72	33	3.87	31	3.63	33	3.87	33	3.87	33	3.87	38	4.45	37	1.57	4.34	
Meat, roast beef.	5.19	7.39	32	2.36	28	2.07	28	2.22	30	2.22	30	2.22	39	1.40	27	1.40	2.00	
Potatoes, baked.	.43		56		111		113		113		121		100		127	.35		
Do.	.49		71		81		74		69		69		85		81	.40		
French omelet.	1.64	7.02	42	2.95	56	3.93	42	2.95	50	3.51	50	3.93	56	3.93	42	.69	2.95	
Oranges.	.19		105		104		104		99		99		113		113			
Raspberry syrup.	.05		31		46		38		35		35		44		37	.02		
Rice flakes.	1.23		8		12		13		10		12		15		18	.22		
Crackers.	1.62	8.53	34	5.55	34	2.90	33	5.53	33	5.53	31	5.0	23	1.19	33	53	2.81	
Cake.	1.78	15.27	33	5.04	32	4.89	28	4.28	38	5.80	30	5.80	29	4.43	24	19	3.66	
Gravy.	.19	2.22	36	.07	80		25		22		38		40	.08	41	.08	.91	
Do.	.22	4.72	44	2.08	249		255		10		48		11	2.27	46	10	2.12	
Apples.	.04		239		75		61		10		263		11		251	.10		
Bolled turnips.	.14		98		79		11		10		120		17	.97	11	.10		
Tomato bisque.	.19	1.26	192	.36	191	.36	181	.34	2.28	.34	177	.34	2.23	.34	176	.33	2.22	
French peas.	.62	.13	157	.20	162	.21	162	.21	1.00	.21	161	1.00	1.01	.21	161	1.00	.21	
June peas.	.78	.60			50	.39	200	.10										
Coffee.	.05		400	.20									.10		200	.10		
Ice tea.	.02		200	.04									.04		200	.04		
Total.				10.95		111.75		12.61	105.22		9.03	113.39	11.17	111.10		10.62	117.97	
<i>June 22, 1910.</i>																		
Bread.	1.50	1.16	183	2.75	202	2.34	157	1.82	168	1.95	188	2.18	188	2.18	147	2.21	1.71	
Butter.	.13	84.70	68	.09	84	71.15	47	39.81	84	71.15	85	72.00	85	72.00	73	.09	61.83	
Sugar.			147		86		32		21		63		63		94			
Milk.	.51	2.53	125	.64	525	13.28	525	13.28	525	13.28	125	13.28	125	13.28	125	.64	3.16	
Cream.	.42	20.22	80	.34	120	24.26	120	24.26	120	24.26	120	24.26	120	24.26	120	.50	24.26	
Meat, roast beef.	4.79	8.10	32	1.53	29	2.35	34	1.63	29	2.35	29	2.35	29	2.35	32	1.53	2.59	
Do.	5.38	13.98	27	1.45	27	3.61	28	1.51	28	3.75	32	1.72	32	4.28	33	1.78	4.42	
Potatoes, mashed.	.41	.51	111	.46	105	.34	79	.32	105	.43	112	.46	112	.57	99	.41	.50	
Potatoes, baked.	.29		69	.20	105		105		80		120		35		80	.26		
Potatoes, baked.	1.48	6.08	85	1.26	80	5.34	78	5.21	88	5.88	88	5.88	88	5.88	86	1.26	5.74	
Scrambled eggs.	.17		43	.07	122		106		117		100		130		108	.17		
Apricots.	1.15		12	.14	17		15		14		15		15		13	.15		
Rice flakes.	1.62	8.53	34	.55	34	2.90	34	2.90	34	2.90	34	2.90	32	2.73	31	.50	2.64	

Stewed apricots.....	14	164	23	168	24	119	21	160	22	182	25	187	26
Lettuce.....	18	30	65	36	66	42	68	35	66	32	66	45	68
Sliced tomato.....	19	40	10	40	68	34	66	36	67	49	69	47	69
Gravy.....	22	45	10	2	12			45	10	32	67	50	11
Do.....	25	41	10	2	12			40	11	2	12	45	11
Beef soup.....	25	5.08	18	2	22			2	22	194	17	21	2.29
French peas.....	62	13	152	94	20	212	19	23	209	194	17	209	19
June peas.....	78	60			80	158	98	21	159	161	1.00	158	98
Coffee.....	05	400	20	102	80	200	10			200	10	200	10
Ice tea.....	02	200	04							200	04		04
Total.....			11.32		13.22		13.03		10.42		12.02		11.60
June 23, 1910.													111.94
Bread.....	1.64	91	4.02	2.23	2.71	1.50	2.21	1.23	2.03	1.13	2.76	1.53	1.57
Butter.....	18	86.17	17	82.72	52	62.04	37	31.88	64	55.15	15	69.80	78.41
Sugar.....		108	65	5.76	2.73	24.20	2.73	24.20	125	5.76	65	125	65
Milk.....	52	4.61	31	15.01	120	22.51	47	22.51	80	15.01	47	100	39
Cream.....	39	18.76	28	2.97	26	2.75	27	2.86		12	44	28	18.76
Meat, roast beef.....	5.32	10.59	1.40	1.39	1.38	1.35	1.44	1.46	39	1.43	1.06	37	1.49
Meat, hash.....	2.47	3.66	38	94	37	31	40	39		90	31	46	1.35
Potatoes, boiled.....	34				100	60	20	31		84	28	84	16
Potatoes, stewed.....	33				73	24	31	29	10	84	28	84	28
French omelet.....	1.30	9.39	70	6.57	70	6.57	70	6.57	61	72	1.16	74	1.11
Rice flakes.....	1.15	10	12		12	14	15	15	17	12	14	15	17
Bananas.....	17				102	17	99	17		93	16	86	15
Grape jelly.....	38		03		32	02	34	02	37	40	03	41	03
Crackers.....	1.62	8.53	31	2.64	32	2.73	34	2.90	33	2.81	28	29	2.47
Stewed cabbage.....	43	5.03	26	3.07	64	3.22	55	2.90	59	2.97	60	29	47
Raspberry jam.....	69		05	10	115	10	11	11	109	10	110	110	10
Cantaloupe.....	07	77	19	3.53	139	10	115	08	153	11	112	133	09
Gravy.....	24	4.52	78	19	115	10	11	08	55	13	09	95	23
French peas.....	76	34	167	1.27	57	67	166	1.26	172	1.31	1.25	156	1.19
June peas.....	78	60			87				64	66	72	181	63
Vegetable purée.....	35	36	64	66	174	61	184	64	183	66	205	200	10
Coffee.....	05	200	10			63	200	10	400	66	10	200	10
Ice tea.....	02	400	08						400	66	08	400	08
Total.....			11.97	127.12	12.77	128.17	12.57	94.83	8.61	93.72	10.77	117.20	123.71
June 24, 1910.													
Bread.....	1.69	1.44	2.64	2.25	3.46	2.95	2.08	1.77	3.13	2.66	2.89	2.46	2.42
Butter.....	18	86.17	15	74.11	75	64.63	34	29.30	104	89.62	17	80.14	69.80
Sugar.....		124	60	7.29	49		23	64		56		83	
Milk.....	48	5.83	125	2.52	525	30.61	525	30.61	125	7.29	60	125	60
Cream.....	40	20.70	120	24.84	120	24.84	120	24.84	120	24.84	48	120	48
Meat, roast leg of mutton.....	5.19	13.50	26	3.51	30	4.05	28	3.78		32	1.66	25	1.30
Meat, pork chops.....	3.98	30.67	27	8.28						35	1.39	38	1.51
Potatoes, baked.....	48	40	52	37	86	41	70	34	77	6.75	63	79	38
Do.....	40		29		82	38	27	12	54	25	56	110	51

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Ether extract.	Amount of food.	Nitrogen.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.
	Per cent	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
<i>June 24, 1910—Con.</i>																		
French omelet.....	1.45	8.04	65	0.94	5.23	65	0.94	5.23	60	0.87	4.82	67	0.97	5.39	69	1.00	5.55	51
Corn flakes.....	1.12		12	0.13		15	0.17		17	0.19		13	0.15		16	0.18		17
Raspberry jam.....	0.09		77	0.07		87	0.08		78	0.07		90	0.08		100	0.09		100
Crackers.....	1.73	9.06	33	0.57	2.99	31	0.54	2.81	2.90	32	1.54	2.90	16	2.28	1.45	31	1.54	2.81
Baked custard.....	0.83	8.53	145	1.20	5.12	167	1.39	5.90	191	1.59	6.74	186	1.54	6.57	192	1.59	6.78	199
Stewed cauliflower.....	0.26		30	0.08		41	0.11		40	0.10		36	0.09		39	0.10		40
French peas.....	0.76	34	160	1.22	54	26	0.75		165	1.25	56	161	1.25	56	161	1.27	57	167
Fresh onions.....	0.28		22	0.06		26	0.07		23	0.06		22	0.06		28	0.08		28
June peas.....	0.78		60			96	0.75	58										
Gravy.....	0.13	7.07	88	0.11	6.22	111	0.11	6.22	107	0.14	7.56	107	0.14	7.56	110	0.14	7.78	110
Tomato soup.....	0.10		169	0.17		27	0.18		196	0.20	29	179	0.18	27	168	0.19	28	188
Coffee.....	0.05		200	0.10		200	0.10		200	0.10		200	0.10		200	0.10		200
Ice tea.....	0.02		400	0.08					400	0.08		400	0.08		400	0.08		400
Total.....			11.56	140.63		13.18	141.87		11.97	105.61		10.99	154.41		13.33	148.53		12.94
<i>June 25, 1910.</i>																		
Bread.....	1.66	1.28	168	2.79	2.15	167	2.77	2.14	137	2.27	1.75	142	2.36	1.82	185	3.07	2.37	157
Butter.....	0.18	86.17	51	0.09	43.95	42	0.13	61.18	37	0.07	31.88	72	0.13	62.94	63	0.11	54.29	71
Sugar.....			72						24									89
Milk.....	0.52	8.06	123	0.65	6.33	325	2.73	26.57	525	2.73	26.57	125	0.65	6.33	125	0.65	6.33	125
Cream.....	5.43	18.39	120	0.63	22.07	120	0.49	22.07	120	0.49	22.07	120	0.49	22.07	120	0.49	22.07	120
Ham, meat.....	2.21	25.02	30	1.08	7.51	46	1.02	6.68	37	0.82	5.37	53	1.17	7.70	48	1.06	6.97	31
Do.....	0.42	30	49	1.08	7.11	73	0.31	22	84	0.35	25	87	0.37	26	83	0.35	25	87
Potatoes, mashed.....																		
Potatoes, hashed brown.....	0.39	3.58	69	0.27	2.47	78	0.30	2.79	86	0.34	3.08	92	0.36	3.29	77	0.30	2.76	81
Scrambled eggs.....	1.49	4.71	68	1.01	3.20	81	1.21	3.82	86	1.22	3.86	86	1.28	4.05	89	1.33	4.19	73
Corn flakes.....	1.12		19	0.21		21	0.24		21	0.24		21	0.22		19	0.21		16
Cantaloupe.....	0.07		99	0.07		156	0.11		130	0.09		144	0.10		74	0.05		112
Crackers.....	1.73	9.06	32	0.55	2.90	32	0.55	2.90	33	0.57	2.99	32	0.55	2.90	32	0.55	2.90	33
Raspberry tapioca.....	0.06		185	0.11		207	0.12		194	0.12		212	0.13		15	0.11		226
Gravy.....	0.11	16.77	87	0.10	14.59	101	0.10	14.59	101	0.11	16.94	101	0.11	16.94	98	0.11	16.94	97
Radishes.....	0.13		79	0.10		72	0.09		212	0.11		88	0.11		10	0.13		76
French peas.....	0.76	34	198	1.50	67				212	1.61	72	207	1.57	70	210	1.60	71	206

	June peas, 1910.										June 27, 1910.									
	1.02	.57	12	11.29	114.00	122	1.24	.70	181	.54	1.00	171	.51	.94	168	.50	.92	177	.53	.97
	Total.....										Total.....									
	1.02	.57	12	11.29	114.00	122	1.24	.70	181	.54	1.00	171	.51	.94	168	.50	.92	177	.53	.97
June 26, 1910.																				
Bread.....	1.57	.98	123	1.93	1.21	180	2.83	1.76	150	2.36	1.47	110	1.73	1.08	116	1.82	1.14	109	1.71	1.07
Toast.....	1.80	.94	35	.63	.33	41	.74	.39	37	.67	.35	34	.61	.32	32	.58	.30	34	.61	.32
Butter.....	.15	80.19	61	.09	54.41	80	.13	76.70	46	.07	41.03	59	.09	52.62	45	.07	40.14	98	.15	87.41
Sugar.....		129				63		50				79			45			92		
Milk.....	.51	2.55	125	.66	4.09	400	2.04	10.20	400	2.04	10.20	125	.66	4.09	125	.66	4.09	109	1.71	1.07
Rollod milk.....	.53	3.27	125	.66	4.09	400	2.04	10.20	400	2.04	10.20	125	.66	4.09	125	.66	4.09	109	1.71	1.07
Cream.....	.50	6.79	80	.40	5.43	80	.40	5.43	80	.40	5.43	25	1.13	4.56	27	1.22	4.92	32	1.44	5.43
Meat, pot roast beef.....	4.51	18.24	41	1.85	7.48							25	1.13	4.56	27	1.22	4.92	32	1.44	5.43
Meat, boiled beef.....	4.59	23.44	24	1.10	5.63							101	.41	4.30	111	.46	4.73	106	.43	4.52
Potatoes, mashed.....	4.26	58										101	.41	4.30	111	.46	4.73	106	.43	4.52
Potatoes, stewed.....	.28		54	.14		73	.20	4.05	101	.41	4.30	63	.18	12	71	.20		83	.14	
Red raspberries.....	.07		93	.07		151	.11		82	.14		72	.09		139	.10		159	.11	
Cantaloupe.....	.07		93	.07		151	.11		82	.14		72	.09		139	.10		159	.11	
Crackers.....	1.73	9.06	31	.54	2.81	32	.55	2.90	32	.55	2.90	127	.55	2.90	9	.16	.82	32	.55	2.90
Cake.....	.90	16.45	118	1.06	19.41	119	1.07	19.58	59	.53	9.71	114	1.03	18.75	102	.92	16.78	113	1.06	19.41
French preserves.....	.11		121	.13		112	.12					134	.15		116	.13		133	.14	
French peas.....	.75	.36	185	1.39	.67				188	1.41	.68	172	1.29	.62	194	1.46	.70	182	1.37	.66
June peas.....	1.02	.57	117			117	1.10	.67												
Gravy.....	.28	10.34	182	.23	8.48				101	.32	.26	116	.32	11.99	180	.22	8.27	120	.34	12.41
Vegetable consommé.....	.20	.16	182	.36	.29	177	.35	.28	101	.32	.26	150	.30	.24	104	.21	.13	181	.36	.29
Strawberries.....	.21		81	.17		93	.20		94	.20		96	.20		89	.19		84	.18	
Ice cream.....	.70	9.03	122	.85	11.02	123	.86	11.11				130	.91	11.74	134	.94	12.10	150	1.05	13.55
Sliced tomatoes.....	.18		45	.08		43	.08		46	.08		47	.08		40	.07		40	.07	
Coffee.....	.65		200	.10					200	.10		400	.08		200	.10		200	.08	
Ice tea.....	.02		400	.08																
Total.....				12.22	125.01		12.05	137.16		10.16	80.42		10.33	118.64		10.99	104.02		11.39	159.44
June 27, 1910.																				
Bread.....	1.67	.96	184	3.07	1.77	177	2.96	1.70	145	2.42	1.39	147	2.45	1.41	232	3.87	2.23	142	2.37	1.36
Butter.....	.15	89.19	96	.14	85.62	78	.12	69.57	46	.07	41.03	113	.17	100.78	85	.13	75.81	90	.14	80.27
Sugar.....	.49	3.14	113	.61	3.93	48			27			61			64			82		
Milk.....	.37	3.14	125	.61	3.93	525	2.57	16.49	525	2.57	16.49	125	.61	3.93	125	.61	3.93	125	.61	3.93
Cream.....	.37	23.41	120	.44	28.09	120	.44	28.09	120	.44	28.09	120	.44	28.09	120	.44	28.09	120	.44	28.09
Meat, pot roast beef.....	4.45	16.29	31	1.38	5.05							22	.98	3.58	19	.85	3.10	31	1.38	5.05
Meat, fried ham.....	3.63	34.62	31	1.13	10.73				30	1.09	10.39	24	.87	8.31	36	1.31	12.46	32	1.16	11.08
Potatoes, baked.....	.64		64	.28		101	.43		67	.29		69	.30		81	.35		52	.22	
Do.....	.43		96	.41		136	.58		105	.45		129	.56		111	.48		73	.39	
French omelet.....	1.54	5.90	64	.99	3.78	66	1.02	3.89	60	.92	3.54	69	1.06	4.07	82	1.54	5.90	68	1.05	4.01
Fruit sirup.....	.03		63	.02		69	.02		69	.02		83	.02		100	.02		74	.02	
Rice flakes.....	1.20		13	.16		13	.16		15	.18		13	.16		11	.13		12	.14	

*Approximate.

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Ether extract.		Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.
	Per cent	Per cent		Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
June 30, 1910—Con.																		
Gravy.....	0.15	9.78	42	0.06	4.11	81	1.47	.68	103	1.87	.87	115	2.09	.97	154	2.80	1.29	
Do.....	.13	5.89	45	.06	2.65	40	.04	35.74	88	.10	78.62	89	.10	79.51	108	.12	96.49	
Beef broth.....	.34	2.27	187	.64	.50	206	0.68	0.54	213	.72	.58	201	.68	.54	212	.72	.57	
Coffee.....	.06	.....	400	.24	.....	200	.12	.....	200	.02	.....	200	.02	.....	200	.12	.....
Ice tea.....	.01	.....	200	.02	.....	200	.....	.....	200	.....	.....	200	.....	.....	200	.....	.....
Total.....							12.29	106.31		10.73	136.77		12.37	104.52		10.88	128.02	
July 1, 1910.																		
Bread.....	1.82	.84	109	1.98	.92	159	2.89	1.34	103	1.87	.87	115	2.09	.97	154	2.80	1.29	
Butter.....	.11	89.34	81	.09	72.37	74	.08	66.11	88	.10	78.62	89	.10	79.51	108	.12	96.49	
Sugar.....	.47	4.91	116	.59	6.14	55	2.47	25.78	125	.59	6.14	125	.59	6.14	125	.59	6.14	
Milk.....	.38	20.72	120	.46	24.86	120	1.79	9.80	57	1.76	9.63	55	1.92	10.47	73	2.26	12.33	
Cream.....	3.09	16.89	67	2.07	11.32	58	1.76	9.63	55	1.70	2.59	62	1.92	10.47	73	2.26	12.33	
Boiled salmon.....	5.63	16.18	23	1.29	3.72	20	1.13	3.24	16	.90	2.59	31	1.75	5.02	29	1.63	4.69	
Meat, roast leg of lamb.....	.32	.....	64	.20	.....	96	.36	.....	114	.19	.....	137	.44	.....	74	.24	.....
Potatoes, baked.....	.35	.....	51	.18	.....	63	.22	.....	65	.23	.....	119	.42	.....	38	.13	.....
Do.....	.32	.....	51	.18	.....	63	.22	.....	65	.23	.....	119	.42	.....	38	.13	.....
Plain omelet.....	1.79	10.80	74	1.32	7.99	59	1.06	6.37	57	1.13	6.80	80	1.43	8.64	74	1.32	7.99	
Rice flakes.....	1.16	.....	14	.16	.....	16	.19	.....	18	.21	.....	19	.22	.....	15	.17	.....
Peaches.....	.07	.....	204	.14	.....	338	.24	.....	257	.18	.....	306	.21	.....	290	.18	.....
Crackers.....	1.73	9.06	33	.57	2.99	31	.54	2.81	32	.55	2.90	16	.28	1.45	33	.57	2.99	
Blackberries.....	.17	.....	78	.03	.....	80	.14	.....	80	.14	.....	94	.16	.....	84	.14	.....
Radishes.....	.12	.....	28	.03	.....	35	.04	.....	45	.05	.....	28	.03	.....	37	.04	.....
French peas.....	.77	40	60	.46	.24	65	.42	.22	61	.47	.24	58	.45	.23	65	.45	.24	
Do.....	.76	39	63	.48	.25	68	.50	.26	66	.50	.26	59	.45	.23	65	.45	.25	
June peas.....	.95	47	105	1.00	.49	105	1.00	.49	105	1.00	.49	105	1.00	.49	105	1.00	.49	
Egg sauce.....	.78	7.18	8	.06	.57	.....	.....	.....	65	.51	4.67	29	.23	2.08	63	.49	4.52	
Gravy.....	.24	6.12	39	.09	2.39	37	.09	2.26	41	.10	2.51	41	.11	2.88	47	.11	2.88	
Tomato soup.....	.24	22	162	.39	3.36	174	.42	4.0	165	.40	3.6	178	.43	.39	170	.41	.37	
Cake.....	.82	13.45	44	.36	5.92	58	.36	5.92	54	.44	7.26	200	.12	.....	200	.12	.....
Coffee.....	.06	.....	400	.24	.....	200	.12	.....	200	.02	.....	200	.02	.....	200	.12	.....
Ice tea.....	.01	.....	200	.02	.....	200	.....	.....	200	.....	.....	200	.....	.....	200	.....	.....
Total.....							10.50	112.55		10.74	147.37		11.80	139.99		13.12	171.23	

July 2, 1910.

[illegible]

July 3, 1910.

[illegible]

July 5, 1910.

July 5, 1910.																			
Bread.....	1.64	1.14	3.35	2.33	178	2.92	2.03	174	2.85	1.98	139	2.28	1.58	182	2.93	2.07	170	2.79	1.94
Butter.....	.10	86.82	.99	85.95	88	.09	76.40	56	.06	48.62	69	.11	94.63	78	.08	67.72	84	.08	72.93
Sugar.....					56			27						77			81		
Milk.....	.47	4.31	.59	5.39	525	2.47	22.63	525	2.47	22.63	125	.59	5.39	125	.59	5.39	125	.59	5.39
Cream.....	.39	32.15	.47	27.78	120	2.47	27.78	120	2.47	27.78	120	.47	27.78	120	.47	27.78	120	.47	27.78
Meat, pork chops.....	3.74	32.90	3.4	11.19	29	1.08	9.54	28	1.08	9.54	125	.94	8.23	37	1.38	12.17	35	1.31	11.52
Do.....	5.11	33.53	2.3	7.71	100			28	1.43	9.39	15	.77	5.63	29	1.48	9.72	30	1.53	10.06
Potatoes, baked.....	.39		.35		100	.39	.45	67	.26		116	.45		118	.46		97	.38	
Do.....	.33		.30		126	.42		107	.35		113	.37		144	.48		59	.19	
Scrambled eggs.....	1.40	6.32	78	4.93	104	1.41	6.38	96	1.34	6.07	95	.16	6.00	134	1.88	8.47	82	1.15	5.18
Bananas.....	.16		1.09		96	.15		40	.06		100			171	.27		89		
Corn flakes.....	1.12		.18		16			19	.21		18	.20	.15	15	.17		21	.24	
Crackers.....	1.74	9.00	34	3.06	33	.57	2.97	32	.56	2.88	35	.61	3.15	32	.56	2.88	33	.57	2.97
Lettuce.....	1.10		.23		72			26	.03		32	.03		34	.03		25	.03	
Grape jelly.....	.06		.05			.04		66	.04		62	.04		84	.05		77	.05	
Gravy.....	.15	16.68	96	16.01				151			47	.07	7.84	98	.15	16.35	101	.15	16.85
French peas.....	.81	41	1.14						1.22	.62	146	1.18		143	1.16	.59	147	1.19	.60
June peas.....	.83				117	1.01	.62										186		
Combination soup.....	.11	1.70	.30	3.21	176	.10	3.15	185	.20	3.31	183	.20	3.28	174	.19	3.11	186	.20	3.33
Boiled rice.....	.51	4.67	.91	4.25	10	.05	.47	93	.47	4.31	81	.40	3.78	88	.45	4.11	96	.49	4.48
Coffee.....	.06		.24					200	.12		200			200	.12		200		
Ice tea.....	.01		.02								200	.02		200	.02		200	.02	
Total.....			11.89	173.42		11.44	151.97		13.22	137.16		10.23	167.29		12.97	160.36		11.69	163.03

Vomitus, No. 2.

July 6, 1910.

July 6, 1910.																													
Bread	1.71	.59	171	2.92	1.01	158	2.70	.93	106	1.81	.63	119	2.03	.70	173	2.96	1.02	141											
Butter	.86	.82	82	.88	71.19	69	.67	59.91	34	.63	29.52	73	.67	63.38	92	.69	79.87	90											
Sugar	.10	115	115			68			32			56			64			73											
Milk	.49	4.72	125	.61	5.90	525	2.57	24.78	525	2.57	24.78	56	.61	5.90	25	.61	5.90	125											
Cream	.40	20.14	120	.48	24.17	120	.48	24.17	80	.32	16.11	120	.48	24.17	290	.48	24.17	230											
Meat, veal outlets	4.98	6.68	25	1.25	1.67				21	1.05					29	1.44	1.94	120											
Do.	4.75	10.06	32	1.52	3.22										26	1.24	2.62	30											
Potatoes, mashed	.31	4.97	109	.37	5.42	94	.32	4.67	108	.37	5.37	92	.31	4.57	117	.40	5.81	100											
Potatoes, hashed																													
Potatoes, hashed brown	.40	10.13	75	.30	7.60	83	.33	8.41	73	.29	7.39	81	.32	8.21	78	.31	7.90	85											
Corn omelot	1.02	6.93	86	1.39	5.96	71	1.15	4.92	68	1.10	4.71	82	1.33	5.68	159	2.58	11.02	78											
Corn flakes	1.12		11	1.12		23	.26		18			15	.17		19	.21		20											
Grape jelly	.06		70	.04		31	.04		37	.02		64	.04		50	.03		79											
Crackers	1.74	9.00	33	.57	2.97	72	.56	2.88	33	.57	2.97	35	.61	3.15	33	.57	2.97	32											
Gravy	.15	6.09	75	.11	4.57							106	.16	6.46	75	.11	4.57	104											
Sliced tomato	.20					67	.13		111	.22		129	.26		104	.21		56											
French peas	.81	.41	163	1.32	.67				166	1.34	.68	173	1.40	.71	166	1.34	.68	170											
June peas	.86	.53				118	1.01	.63	99	.43		220	.95		215	.92		234											
Asparagus	.43		213	.92		205	.88		199	.56		196			194			194											
Rasperry gelatine	.28	4.21	174	.49	2.11	175	.49	2.12																					
Roast of celery																													

Daily food chart—Continued.

Date and kind of food.	Nitrogen.	Ether extract.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
			Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.
			Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
<i>July 9, 1910—Con.</i>																				
Tomato consommé...	0.41	0.20	163	0.67	0.33	171	0.70	0.34	176	0.72	0.35	181	0.74	0.36	195	0.39	0.19	168	0.69	0.34
Coffee...	0.06		200	.12		200	.12		200	.12		200	.12		200	.12		200	.12	
Ice tea...	.01		200	.02		200	.02		200	.02		200	.02		200	.02		400	.04	
Total...				12.23	139.04		11.37	98.44		8.77	81.54		8.92	134.35		11.75	136.96		10.52	130.83
<i>July 10, 1910.</i>																				
Bread...	1.58	1.33	112	1.77	1.49				102	1.61	1.36	117	1.85	1.56	152	2.40	2.02	111	1.75	1.48
Butter...	.10	84.15	64	.06	53.86				39	.04	32.82	92	.09	77.42	61	.06	51.33	96	.10	80.78
Sugar...			117						17			27			70			54		
Milk...	.46	4.35	125	.58	5.44				525	2.42	22.84	125	.58	5.44	125	.58	5.44	125	.58	5.44
Green...	.40	20.09	120	.48	24.11				80	.32	16.07	80	.32	16.07	120	.48	24.11	120	.48	24.11
Meat, roast leg of mutton...	5.26	15.07	24	1.26	3.62				20	1.05	3.01				22	1.16	3.32	26	1.37	3.92
Meat, cold roast leg of mutton...	4.42	12.69	30	1.33	3.81				29	1.28	3.68				18	.80	2.28	36	1.59	4.57
Potatoes, baked...	.42		57	.24					79	.33		109	.46		87	.37		109	.46	
Do...	.39		56	.22					62	.24		57	.22		93	.36		89	.33	
Creamed eggs...	1.54	8.75	62	.95	5.43				74	1.14	6.48	70	1.08	6.13	78	1.20	6.83	68	1.05	5.95
Corn flakes...	1.09		10	.11					16	.17		16	.17		16	.17		20	.22	
Cantaloupe...	1.10		100	.10					136	.16		109	.15		109	.17		172	.17	
Crackers...	1.74	9.00	34	.59	3.06				33	.57	2.97	34	.59	3.06	9	.16	.81	32	.56	2.88
Cake...	.83	16.14	106	.88	17.11				105	.87	16.95	120	1.00	19.37	103	.85	16.62	102	.85	16.46
Gravy...	.24	9.17	36	.09	3.30				36	.09	3.30	74	.18	6.79	78	.19	7.15	219	.11	7.15
Stewed peaches...	.05		189	.09					194	.10		203	.10		203	.10		219	.11	
French peas...	.71	.55	61	.43	.34				63	.45	.35	64	.45	.35	61	.43	.34	61	.43	.34
Do...	.70		72	.55					66	.50	.26	76	.58	.30	67	.51	.27	62	.47	.25
Tomato bisque...	.38	2.73	170	.65	4.64				182	.69	4.97	157	.60	4.29	145	.55	3.96	158	.60	4.31
Ice cream...	.63	1.68	114	.72	1.92				116	.73	1.95	116	.73	1.95	127	.80	2.13	117	.74	1.97
Coffee...	.06		400	.24					200	.12					200	.12		200	.12	
Total...				11.34	128.42					12.08	111.76		9.06	136.24		11.45	126.25		12.19	159.61
<i>July 11, 1910.</i>																				
Bread...	1.61	1.38	136	2.19	1.88				153	2.46	2.11	169	2.72	2.33		2.51	2.15	100	1.61	1.38

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. I.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Amount of food.	Nitrogen.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.
<i>July 13, 1910.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Bread.....	1.57	1.50	234	3.67	3.51	184	2.80	2.76	167	2.62	2.51	197	3.09	2.96	197	3.09	2.96	197
Butter.....	.10	87.16	92	.09	80.19	43	.04	37.48	80	.08	68.86	90	.09	78.44	89	.09	77.57	89
Sugar.....			145			35			70			45			62			62
Milk.....	.49	3.32	125	.61	4.15	525	2.57	17.43	120	.61	4.15	125	.61	4.15	125	.61	4.15	125
Cream.....	.39	19.50	120	.47	23.51	120	.47	23.51	120	.47	23.51	120	.47	23.51	120	.47	23.51	120
Meat, hash.....	2.35	7.63	56	1.32	4.27	55	1.29	4.20	47	1.10	3.59	52	1.22	3.97	48	1.13	3.66	48
Meat, veal cutlets.....	5.99	13.47	20	1.20	2.69	90	1.20	2.69	17	1.02	2.29	92	1.32	2.96	23	1.38	3.10	23
Potatoes, baked.....	.35		74	.26		88	.21		93	.33		112	.39		76	.27		76
Potatoes, boiled.....	.36		97	.35		70	.27		137	.49		153	.55		93	.33		93
Potatoes, boiled.....	1.41	7.58	89	1.25	6.75	87	1.23	6.59	106	1.49	8.03	149	2.10	11.29	120	1.69	9.10	120
Creamed eggs.....	1.24		14	.17		59	.04		15	.19		15	.19		16	.20		16
Rice flakes.....	.06					59	.04		120	.07		120	.07		2	.03		2
Peaches.....	1.74	9.00	17	.30	1.53	17	.30	1.53	47	.08		48	.09		51	.11		51
Crackers.....	.18					50	.09		47	.10	.89	49	.11	.93	51	.11	.96	51
Sliced tomatoes.....	.22	1.89	37	.09	1.80	49	.11	.93	7	.02	.34	34	.08	1.65	40	.10	1.94	40
String beans.....	.24	20	49	.10	4.55	49	.10	4.55	51	.10	4.74	52	.10	4.83	48	.10	4.46	48
Do.....	.02	.10	115	.02	.12	97	.02	.10	101	.02	.10	105	.02	.11				
Current tapioca.....	.81	.35	133	1.08	.47	140	1.13	.49	141	1.14	.49	133	1.13	.49	160	1.30	.56	160
French peas.....	.10	.56	174	.17	.97	171	.17	.96	170	.17	.95	183	.18	1.02	193	.19	1.08	193
Tomato soup.....						49	.42	2.21	91	.77	4.10	71	.60	3.20	90	.77	4.06	90
Chocolate cream pud- ding.....	.85	4.51	80	.68	3.61	200	.12		400	.08		400	.12		200	.12		200
Coffee.....	.06			.08									.08		400	.08		400
Ice tea.....	.02																	
Total.....				12.03	138.12		12.83	100.88		10.95	124.55		12.89	140.95		12.06	137.29	
<i>July 14, 1910.</i>																		
Bread.....	1.66	1.27	178	2.95	2.26	145	2.41	1.84	102	1.69	1.30	143	2.37	1.82	144	2.39	1.83	144
Butter.....	.10	87.16	91	.10	86.29	36	.04	31.38	93	.09	81.06	69	.07	60.14	91	.09	79.32	91
Sugar.....			125			32			32			82			36			36
Milk.....	.50	3.34	125	.63	4.18	525	2.63	17.54	125	.63	4.18	125	.63	4.18	125	.63	4.18	125
Cream.....	.40	16.85	120	.48	20.22	120	.48	20.22	120	.48	20.22	120	.48	20.22	120	.48	20.22	120
Hash, meat.....	4.70	23.25	23	1.18	6.31	29	1.36	7.32	30	.48	7.58	29	1.41	7.58	29	1.36	7.32	29
Do.....	4.86	32.43	28	1.36	9.08	29	1.41	9.40	10	.49	3.24	25	.49	3.24	25	1.22	8.11	25

Potatoes, baked.	31	97	30	24	92	29	115	36	64	20	.....
Do.	36	79	28	27	111	40	129	46	63	23	.....
French omelet.	1.40	57	80	77	65	91	127	1.78	13.97	74	8.14
Current jelly.	.02	56	.01	.01	47	.01	61	.01	56	.01	.....
Cantaloupe.	.09	.....	.....	.....	139	.13	100	.09	93	.05	.....
Corn flakes.	1.05	8	.08	13	10	.11	12	13	32	.58	2.97
Crackers.	1.84	30	.54	.56	31	.56	16	.29	82	.71	13.39
Cake.	86	16.33	74	14.04	76	.65	87	.75	100	.59	.67
Beef broth.	.30	167	.50	.57	199	.60	196	.59	107	.67	9.29
Gravy.	.20	98	.20	9.10	162	.03	155	.03	149	.03	.15
Current tapioca.	.02	173	.03	.17	166	.88	194	.39	1.97	.....	.....
Boiled cabbage.	.23	1.17	158	1.85	116	.94	129	1.04	200	.45	.....
French peas.	.81	128	1.04	1.12	200	.12	400	.24	10.37	.....	.....
Coffee.	.06	200	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.	.....	.....	11.70	163.57	.....	7.90	132.39	11.80	139.01	10.37	151.86
July 15, 1910.											
Bread.	1.59	156	2.48	2.78	168	2.67	201	3.20	3.58	2.56	2.86
Butter.	.10	81	.08	.05	85	.09	78	.08	98	.10	85.42
Sugar.	.....	130	.....	.....	58	.....	51	.....	55	.....	.....
Milk.	.50	125	.63	2.39	125	.63	120	.63	2.39	.....	.....
Cream.	.33	18.69	.40	22.43	120	.40	22.43	1.52	2.35	1.42	22.43
Meat, steak.	5.25	25	1.31	2.18	.....	.....	29	1.52	27	1.36	3.06
Do.	4.86	10.94	1.26	2.84	89	.34	133	.51	85	.32	4.29
Potatoes, baked.	.38	89	.34	.24	77	.24	77	.24	74	.23	4.29
Potatoes, hashed.	.31	79	.24	4.58	76	1.28	98	1.65	9.71	1.48	8.72
Plain omelet.	1.68	44	.74	4.36	108	.18	108	.18	.....	.....	.....
Oranges.	.17	119	.20	.....	16	.17	16	.17	.....	.....	.....
Corn flakes.	1.05	12	.13	.20	17	.18	16	.17	33	.60	3.06
Crackers.	1.81	32	.58	.54	32	.58	8	.14	74	.....	.....
Cake.	.86	42	.36	.32	38	.33	41	.35	6.70	.41	35
Cream gravy.	.50	105	.53	10.07	106	.53	10.17	.55	10.55	.65	12.47
Sliced tomato.	.18	.....	.....	.10	53	.10	46	.08	.....	.....	.....
Canned peaches.	.06	70	.04	.05	79	.05	82	.05	83	.05	.....
Stewed raspberries.	.19	76	.14	.12	84	.16	92	.17	91	.17	.....
French peas.	.51	64	.52	.54	63	.51	67	.54	69	.56	.24
Do.	.78	71	.55	.37	65	.47	60	.47	68	.53	.....
Vegetable soup.	.21	223	.17	1.32	196	.41	218	.46	1.29	.45	1.25
Beets.	.26	52	.14	.12	55	.14	29	.08	59	.15	.....
Coffee.	.06	400	.24	.12	200	.04	200	.04	200	.12	.....
Ice tea.	.02	200	.....	.....	.....	.....	.....	.....	200	.04	.....
Total.	.....	.....	11.42	133.97	.....	9.38	134.98	12.12	134.00	11.54	157.49
July 16, 1910.											
Bread.	1.02	159	2.58	2.66	164	2.66	139	2.25	2.32	2.19	2.25
Butter.	.10	91	.09	.02	105	.11	89	.09	76.12	.10	84.67
Sugar.	.....	172	.....	.....	67	.....	79	.....	76	.....	.....
Milk.	.51	125	.64	1.85	125	.64	125	.64	1.85
Cream.	.38	18.19	.46	21.83	120	.46	120	.46	21.83	.46	21.83

Cantaloupes.....	74	05	54	2.78																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).			
	Ether extract.	Amount of food.	Nitrogen.	Ether ex-tract.	Nitrogen.	Grams.	Amount of food.	Nitrogen.	Ether ex-tract.	Nitrogen.	Grams.	Amount of food.	Nitrogen.	Ether ex-tract.	Nitrogen.	Grams.	Amount of food.	Nitrogen.	Ether ex-tract.
<i>July 19, 1910—Con.</i>																			
Potatoes, hashed brown.....	Per cent	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
" " " " " "	8.08	92	7.43	92	0.28	7.43	98	0.29	7.92	97	0.29	7.84	93	0.28	7.51	93	0.28	7.51	93
Creamed eggs.....	1.37	99	1.36	109	1.49	1.49	126	1.73	8.40	109	1.49	1.49	117	1.49	1.49	117	1.49	1.49	117
Steamed peaches.....	0.04	91	0.04	91	0.04	1.14	107	0.04	1.14	115	0.05	1.15	116	0.05	1.16	116	0.05	1.16	116
Puffed rice.....	1.02	12	1.12	14	1.14	11	11	1.14	2.88	15	1.15	15	1.15	1.15	1.15	15	1.15	1.15	15
Crackers.....	1.81	33	3.06	33	3.06	31	3.06	31	5.6	33	5.6	33	5.6	33	5.6	33	5.6	33	5.6
Sliced oranges.....	.21	103	.22	111	.23	111	113	.24	1.21	123	.21	123	.26	1.21	123	.26	1.21	123	.26
French peas.....	.79	181	1.43	172	1.36	60	153	1.21	54	162	1.28	174	1.37	1.37	174	1.37	1.37	174	1.37
Slaw.....	.22	40	.09	42	.09	43	43	.09	1.28	57	1.28	57	1.28	1.28	57	1.28	1.28	57	1.28
Beef broth.....	.08	198	.16	200	.16	30	207	.17	31	197	.16	30	105	.08	1.13	105	.08	1.13	105
Gravy.....	.12	453	1.02	44	.05	1.99	48	.06	2.17	111	.13	5.03	111	.13	5.03	111	.13	5.03	111
Baked custard.....	.76	142	1.85	128	.97	1.82	125	.95	1.78	117	.89	1.66	117	.89	1.66	117	.89	1.66	117
Coffee.....	.06	400	.24	200	.12	200	200	.12	200	200	.12	200	200	.12	200	200	.12	200	200
Ice tea.....	.02	200	.04	200	.04	200	200	.04	200	200	.04	200	200	.04	200	200	.04	200	200
Total.....			16.15		16.50	74.58		15.61	121.34		15.10	108.15		14.32	143.04				
<i>July 20, 1910.</i>																			
Bread.....	1.69	1.12	1.00	131	2.21	1.47	159	2.69	1.78	149	2.52	1.67	76	1.28	85	76	1.28	85	76
Butter.....	.10	83.94	57.92	37	.04	32.74	95	.10	79.74	89	.09	74.71	51	.05	45.33	51	.05	45.33	51
Sugar.....	.51	3.08	3.85	525	2.68	16.17	125	.64	3.85	125	.64	3.85	125	.64	3.85	125	.64	3.85	125
Milk.....	.39	17.19	13.75	120	.47	20.63	120	.47	20.63	120	.47	20.63	120	.47	20.63	120	.47	20.63	120
Cream.....	4.73	13.50	4.32	27	1.28	3.65	21	.99	2.84	25	1.18	3.38	26	1.23	3.51	26	1.23	3.51	26
Meat, veal cutlets.....	4.66	13.91	1.12	25	1.17	3.48	27	1.26	2.76	29	1.35	4.03	30	1.40	4.17	30	1.40	4.17	30
Do.....	.35		.18	54	.19		74	.26		144	.50		53	.19		53	.19		53
Potatoes, baked.....	.32	8.22	6.99	82	.26	6.74	66	.21	5.43	79	.25	6.49	92	.29	7.56	92	.29	7.56	92
Potatoes, hashed brown.....	1.59	10.31	7.84	83	1.32	8.56	116	.16	7.22	84	1.34	8.66	124	.17	7.84	124	.17	7.84	124
French omelet.....	.32		1.17	116	.15		107	.15		107	.15		107	.15		107	.15		107
Bananas.....	1.02		1.13	15	.15		14	.14		14	.14		10	.10		10	.10		10
Puffed rice.....	1.81	9.28	3.31	31	.56	2.88	31	.56	2.88	32	.58	2.97	32	.58	2.97	32	.58	2.97	32
Crackers.....	.21		2.88	96	.20		88	.18		88	.18		101	.21		101	.21		101
Beets.....	.12	4.53	1.99	46	.06	2.08	46	.06	2.08	43	.05	2.08	43	.05	2.08	43	.05	2.08	43
Gravy.....	.23	1.09	.41	39	.09		39	.09	.43	30	.07	.33	34	.08	.37	34	.08	.37	34

Sliced peaches.....	.05	.26	.96	.05	.97	.05	.18	.49	.05	.99	.05	.106	.124	.06
Tomato consommé.....	.10	1.42	195	.20	182	.18	.51	1.47	.19	185	.48	177	170	.44
Baked custard.....	.76		200	.80	105	.82		1.53	.77	101	1.09	144	108	.82
Coffee.....	.06		200	.10	200	.10			.02	200		200	200	.10
Ice tea.....	.01		200	.02						200		200	200	.02
Total.....														
July 21, 1910.				8.18	104.80	11.94	92.83	98.35	8.68	11.01	131.30	9.12	101.00	
Bread.....	1.72	1.24	183	3.15	2.27	2.86	2.06	2.17	2.86	166	2.06	164	160	1.98
Butter.....	.10	83.94	107	.11	89.82	.47	62.12	46	.09	90	75.55	101	80	67.15
Sugar.....	.46	1.53	125	.68	1.91	2.42	8.03	8.03	.58	125	1.91	50	97	
Milk.....	.36	18.17	80	.29	14.54	120	21.80	21.80	.43	120	21.80	125	120	21.80
Cream.....	5.33	10.67	27	1.44	2.88	2.33	2.67	2.24		30	1.60	30	24	2.56
Meat, steak.....	4.73	30.02	24	1.14	7.20	.21	6.30	6.00		27	1.28	27	23	6.90
Do.....	.37		82	.30	151	.56	5.1		.39	105	.51	113	102	
Potatoes, baked.....	.37		118	.44	347	.33	337	4.42	.27	73	.57	139	103	.42
French omelet.....	1.57	8.70	62	.97	5.39	.54	4.70	4.70	.85	54	4.70	85	60	5.22
Current jelly.....	.02	65	.01		.77	.02			.01	66	.01	79	75	.02
Rice flakes.....	1.18	1.18	15	.18	13	.16	13	13	.16	13	.16	12	14	
Crackers.....	1.20	9.28	32	.58	2.97	.32	2.97	2.97	.16	32	2.97	16	31	2.88
Gravy.....	.23	6.19	81	.19	5.01	.86	5.32	5.01	.07	82	5.08	71	90	5.63
Beets.....	.21		38	.08	3.07	.33			.33	33	.08	40	40	
Peaches.....	.06	156	.09		129	.08	131	116	.07	116	.08	129	110	.07
Tomato cream.....	.41	.96	183	.75	1.76	.89	1.81	1.81	.77	100	.84	205	205	.84
Stewed apple sauce.....	.03	91	.03		101	.03	101	100	.03	100	.03	138	114	.03
Sliced tomatoes.....	.22		46	.10		.10			.14	62	.14	53	57	.13
Coffee.....	.05		400	.20					.02	200		200	200	.10
Ice tea.....	.01		200	.02						200		200	400	.04
Total.....				10.47	133.75	12.67	117.78	93.43	7.51	11.11	137.07	9.45	116.09	
July 22, 1910.														
Bread.....	1.78	1.00	228	4.06	2.28	3.84	2.16	1.79	2.85	160	1.60	245	185	1.85
Butter.....	.10	81.21	104	.10	84.46	.68	55.22	21.93	.10	101	82.02	104	95	77.15
Sugar.....	.47	2.39	125	.59	2.99	31			.59	125	2.99	57	61	
Milk.....	.37	15.15	80	.30	12.12	247	12.55	12.55	.44	125	18.18	125	120	.44
Cream.....	3.22	2.46	26	1.12	4.22	2.61	4.54	4.22	.44	89	2.87	104	102	3.85
Boiled halibut.....	4.30	16.22	26	1.12	4.22	2.61	4.54	4.22	.44	89	2.87	104	102	3.85
Meat, Spanish hash.....	.35		106	.37	32	.32			.16	45	.16	34	34	
Potatoes, baked.....	.34		81	.28	32	.32			.35	103	.35	127	98	.34
Do.....	.34		81	.28	32	.32			.35	103	.35	127	98	.34
Scrambled eggs.....	1.39	7.05	81	1.13	5.71	104	1.45	6.77	1.00	79	1.45	119	88	1.35
Raspberry jam.....	.02		95	.13		.02			.14	108	.14	111	96	.02
Rice flakes.....	1.20	1.13	13	.13	13	.17			.14	32	.14	10	32	.14
Crackers.....	1.81	9.28	32	.58	2.97	.8	.74	2.97	.60	33	3.06	14	36	2.97
Sliced tomatoes.....	.22		91	.11		.09			.12	53	.12	64	12	.12
Stewed raspberries.....	.23	6.19	21	.05	1.30	.19	5.08	2.48	.16	101	.16	120	111	.16
Gravy.....	.22		77	.17		.40			.42	190	.42	66	72	.42
Beef consommé.....	.22		180	.40		.56			.38	190	.38	96	212	.47

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
<i>July 22, 1910—Con.</i>																		
Stewed apple sauce.	84	0.03	4.94	93	0.03	5.38	84	0.03	4.14	89	0.03	4.45	95	0.03	4.02	83	0.03	4.70
Baked beans.	80	.86	.20	87	.94		67	.72		72	.78		65	.70		76	.82	
Coffee.	400	.05		200	.10		200	.10					200	.10		200	.10	
Total.		10.10	121.14		14.68	113.53		12.53	76.14		11.67	127.73		14.09	131.71		10.42	119.03
<i>July 23, 1910.</i>																		
Bread.	136	1.62	1.88	114	1.85	1.57	185	3.00	2.55	101	3.09	2.64	155	2.51	2.14	148	2.40	2.04
Butter.	79	.10	81.21	45	.05	36.54	51	.05	41.42	104	.10	84.46	88	.09	71.46	92	.09	74.71
Sugar.	116	.48		25			34			74			61			100		
Milk.	125	.48	1.28	525	2.32	6.72	325	2.32	6.72	125	.60	1.60	125	.60	1.60	125	.60	1.60
Cream.	80	.33	12.70	120	.49	19.06	120	.49	19.06	120	.49	19.06	120	.49	19.06	80	.33	12.70
Meat, lamb fries.	44	1.50	6.09				59	2.01	8.16	58	1.97	8.02	41	1.39	5.67	48	1.83	6.94
Meat, pot roast, beef.	22	1.25	2.32	20	1.13	2.11				16	.91	1.69	25	1.42	2.64	22	1.25	2.32
Potatoes, baked.	66	.24		111	.40		82	.30		107	.39		104	.37		74	.27	
Potatoes, mashed.	13	.32		91	.29		12	.12		114	.36		98	.31		82	.26	
French omelet.	48	1.53	6.89	48	.73	3.31	49	.75	3.38	51	.78	3.51	61	.93	4.20	53	.81	3.65
Cantaloupe.	101	.11		191	.21					163	.18		160	.18		103	.13	
Puffed rice.	10	.11		12	.13		12	.13		8	.09		8	.09		32	.58	2.97
Crackers.	32	.58	2.97	14	.25	1.30	32	.58	2.97	33	.60	3.06	24	.43	2.23	32	.58	2.97
Peaches.	93	.06		125	.08		91	.05		80	.05		141	.08	.48	121	.07	
Stewed turnips.	56	.08		44	.06					34	.05		56	.08		35	.05	
Radishes.	33	.05											35	.05				
Steak.	33	.05		44	.06													
Tomato consommé.	162	.26		171	.27	5.25	159	.25	.41	159	.25	.41	167	.27	.43	175	.28	.46
Gravy.	76	.15		70	.11	5.72				88	.13	7.19	87	.13	7.11	80	.12	6.54
Currant jelly.	48	.01		51	.01		55	.01		60	.01		55	.01		62	.01	
Coffee.	200	.10		200	.10		200	.10		200	.10		200	.10		200	.10	
Ice tea.	400	.04								400	.04		400	.04		400	.04	
Total.		8.71	102.25		10.10	82.14		10.53	84.79		10.09	131.79		9.57	117.15		9.13	113.74
<i>July 24, 1910.</i>																		
Bread.	142	1.71	1.17	169	2.89	1.98	111	1.90	1.30	164	2.80	1.92	94	1.61	1.10	137	2.34	1.60

Butter.....	.09	85.98	72	.06	61.91	45	.04	38.69	26	.02	22.35	80	.07	68.78	31	.03	26.65	83	.07	71.36
Sugar.....	.49	2.09	125	.61	2.61	325	.59	6.79	46	.59	6.79	125	.61	2.61	48	.61	2.61	78	.61	2.61
Cream.....	.42	19.57	40	.17	7.83	120	.50	23.48	325	.50	23.48	80	.34	15.66	125	.50	23.48	125	.34	15.66
Meat, pot roast, beef.....	4.90	10.52	30	1.47	3.16	27	1.32	2.84	27	1.32	2.84	80	.34	15.66	11	.54	1.16	30	1.47	3.16
Meat, veal cutlets.....	5.53	15.50	24	1.33	3.72	21	1.16	3.26	19	1.05	2.95	98	.34	5.86	91	.32	5.44	27	1.49	4.19
Potatoes, mashed.....	.35	5.98	108	.38	6.46	97	.34	5.80	101	.35	6.04	98	.34	5.86	91	.32	5.44	110	.39	6.58
Potatoes, hashed brown.....	.36	6.72	102	.37	6.85	101	.36	6.79	87	.31	5.85	99	.36	6.65	86	.31	5.78	110	.40	7.39
Scrambled eggs.....	1.50	7.45	88	1.32	6.56	99	1.49	7.38	99	1.44	7.05	98	1.47	7.30	108	1.62	8.05	97	1.46	7.23
Oranges.....	.16	1.18	112	.18	1.26	97	.16	1.16	110	.18	1.22	124	.20	1.31	131	.21	1.22	124	.20	1.31
Corn flakes.....	1.11	1.17	15	.17	1.17	17	.19	1.48	20	.22	1.22	17	.19	1.38	23	.26	1.22	23	.26	1.39
Crackers.....	1.81	9.28	16	.29	1.48	16	.29	1.48	17	.31	1.58	17	.31	1.58	15	.27	1.39	15	.27	1.39
Do.....	1.81	8.81	16	.29	1.41	17	.31	1.50	15	.27	1.32	16	.29	1.41	39	.14	1.41	16	.29	1.41
Cookies.....	1.06	14.77	43	.46	6.35	41	.43	6.06	37	.39	5.46	56	.12	1.11	49	.11	1.31	38	.40	5.61
Sliced tomato.....	.22	4.35	45	.10	3.92	45	.10	3.92	65	.14	3.92	56	.12	1.11	49	.11	1.31	99	.20	4.32
Gravy.....	.20	4.35	88	.18	3.84	90	.18	3.92	89	.18	3.92	48	.12	1.11	30	.06	1.31	99	.20	4.32
Ice cream.....	.58	3.13	157	.91	4.91	148	.86	4.63	139	.80	4.63	153	.89	4.79	137	.79	4.29	165	.96	5.16
Tomato soup.....	.14	.22	182	.25	4.0	175	.25	3.91	166	.23	3.7	189	.26	4.2	179	.25	4.29	179	.25	4.39
Corn starch custard.....	.62	7.78	72	.45	5.60	76	.47	5.91	80	.50	6.22	86	.53	6.69	80	.50	6.22	87	.54	6.77
Coffee.....	.05	200	10	.04	200	10	.04	200	200	.02	200	400	.04	200	200	.04	200	200	.04	200
Ice tea.....	.01	400	400	.04	400	400	.04	400	200	.02	400	400	.04	400	400	.04	400	400	.04	400
Total.....				11.46	124.75	129.97	120.90	10.84	93.70	8.92	125.76	7.86	86.48	11.88	144.83					
July 25, 1910.																				
Bread.....	1.79	1.08	139	2.49	1.50	182	3.26	1.97	145	2.60	1.57	131	2.34	1.41	145	2.60	1.57	146	2.61	1.58
Butter.....	.09	85.98	100	.09	85.98	71	.06	61.05	36	.03	30.95	97	.09	83.40	89	.08	76.52	105	.09	90.28
Sugar.....	.49	2.09	125	.61	2.61	325	.59	6.79	46	.59	6.79	125	.61	2.61	48	.61	2.61	75	.61	2.61
Milk.....	.40	3.00	125	.46	21.56	120	1.46	21.56	120	1.46	21.56	120	.46	21.56	120	.46	21.56	120	.46	21.56
Cream.....	.40	12.04	28	1.43	3.37	24	1.22	2.89	23	1.05	3.73	24	1.10	3.90	3	.15	.36	30	1.53	3.61
Meat, veal cutlets.....	4.58	16.23	30	1.37	4.87	30	1.37	4.87	23	1.05	3.73	24	1.10	3.90	3	.15	.36	30	1.53	3.61
Meat, roast leg of veal.....	.34	8.00	90	.27	4.87	121	.46	3.86	86	.33	3.73	107	.41	3.90	80	.30	3.07	108	.41	5.03
Potatoes, baked.....	.34	8.00	90	.27	4.87	121	.46	3.86	86	.33	3.73	107	.41	3.90	80	.30	3.07	108	.41	5.03
Do.....	.34	8.00	90	.27	4.87	121	.46	3.86	86	.33	3.73	107	.41	3.90	80	.30	3.07	108	.41	5.03
Wheat cakes.....	1.45	8.58	62	.90	5.32	67	.97	5.75	62	.90	5.32	81	1.17	6.95	104	1.51	8.92	70	1.02	6.01
Current jelly.....	.02	1.05	46	.01	1.05	50	.01	1.05	38	.01	1.05	45	.01	1.05	50	.01	1.05	48	.01	1.05
Oranges.....	1.12	1.16	133	.21	1.16	13	.15	1.16	16	.18	1.16	11	.12	1.16	115	.18	1.16	15	.17	1.16
Corn flakes.....	1.12	1.16	133	.21	1.16	13	.15	1.16	16	.18	1.16	11	.12	1.16	115	.18	1.16	15	.17	1.16
Crackers.....	1.81	8.81	32	.58	2.82	21	.22	3.10	33	.60	2.91	32	.58	2.82	23	.42	2.03	32	.58	2.82
Cook.....	1.06	14.77	10	.20	2.81	21	.06	3.10	225	.09	2.91	20	.21	2.95	231	.09	2.03	18	.10	2.96
Baked apple sauce.....	.04	4.36	104	.07	1.87	213	.06	1.22	225	.09	2.91	20	.21	2.95	231	.09	2.03	18	.10	2.96
Gravy.....	.36	1.06	36	.07	1.87	28	.06	1.94	183	.69	2.05	34	.07	1.48	35	.07	1.53	36	.07	1.57
Tomato bisque.....	.36	1.06	172	.62	1.82	183	.06	1.94	183	.69	2.05	34	.07	1.48	35	.07	1.53	36	.07	1.57
Lettuce.....	.16	.03	16	.03	.04	24	.04	.04	17	.03	.04	22	.04	.04	25	.04	.04	23	.04	.04
Coffee.....	.05	400	400	.20	400	200	.10	400	200	.10	400	200	.02	400	200	.10	400	200	.02	400
Ice tea.....	.01	400	400	.04	400	200	.02	400	200	.02	400	200	.02	400	200	.02	400	200	.02	400
Total.....				10.17	135.37	111.09	114.10	8.95	77.84	8.49	130.03	8.13	119.31	10.40	140.78					

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
<i>July 26, 1910.</i>																		
Bread.....	142	1.98	1.25	238	4.19	3.50	154	2.71	2.26	157	2.76	2.31	158	2.78	2.32	178	3.13	2.62
Butter.....	81	.11	2.50	96	.12	83.81	39	.05	34.05	95	.12	82.94	99	.13	86.43	119	.15	103.89
Sugar.....	70	.64	2.71	61	3.25	7.05	52	1.66	7.05	32	.64	2.71	43	.64	2.71	99	.64	2.71
Milk.....	125	.39	2.53	120	1.66	20.66	335	.46	20.66	125	.46	20.66	120	.46	20.66	80	.30	13.78
Cream.....	125	.39	2.53	120	1.66	20.66	335	.46	20.66	125	.46	20.66	120	.46	20.66	80	.30	13.78
Meat, roast leg of mutton.....	80	.29	13.85	120	.43	23.77	120	.43	23.77	120	.43	23.77	120	.43	23.77	80	.29	13.85
Do.....	26	1.20	3.09	25	1.16	2.97	28	1.29	3.33				29	1.34	3.45	34	1.57	4.04
Potatoes, boiled.....	37	1.80	5.01	30	1.46	4.06	105	.30		82	.24		29	1.41	3.93	32	1.56	4.33
Potatoes, hashed brown.....	82	.24		76	.22								93	.27		95	.28	
French omelet.....	68	.43	6.82	76	.33	5.18	63	.27	4.30	89	.38	6.07	70	.30	4.77	56	.24	3.82
Corn flakes.....	78	1.14	5.46	72	1.05	5.04	70	1.02	4.90	67	.98	4.69	96	1.40	6.72	66	.96	4.62
Grape jelly.....	18	.20		16	.18		18	.20		19	.21		18	.20		19	.21	
Crackers.....	59	.04		70	.04		42	.03		73	.04		24	.01		58	.03	
Sliced pineapple.....	31	.56	2.73	16	.29	1.41	31	.56	2.73	32	.58	2.82	15	.27	1.32	32	.58	2.82
Beets.....	141	.11		135	.11		140	.10		129	.10		152	.12		150	.12	
Gravy.....	81	.10	2.71	85	.07	2.85	58	.08		66	.09		59	.08		50	.09	
Julienne soup.....	89	.06	.04	214	.15	.11	227	.16	.11	42	.05	1.41	40	.05	1.34	94	.11	3.15
New onions.....	20	.04		18	.03					186	.13	.09	196	.14	.10	187	.13	.09
Coffee.....							200	.10					200	.10		200	.10	
Ice tea.....	600	.06		600	.06		400	.04		400	.04		400	.04		800	.08	
Total.....		9.04	98.52		9.48	103.22		7.51	67.19		6.82	126.59		7.57	82.80		8.89	109.55
<i>July 27, 1910.</i>																		
Bread.....	142	1.76	1.47	238	4.19	3.50	154	2.71	2.26	157	2.76	2.31	158	2.78	2.32	178	3.13	2.62
Butter.....	81	.13	87.30	96	.12	83.81	39	.05	34.05	95	.12	82.94	99	.13	86.43	119	.15	103.89
Sugar.....	70	.51	2.17	61	3.25	7.05	52	1.66	7.05	32	.64	2.71	43	.64	2.71	99	.64	2.71
Milk.....	125	.38	17.22	120	1.66	20.66	335	.46	20.66	125	.46	20.66	120	.46	20.66	80	.30	13.78
Cream.....	125	.38	17.22	120	1.66	20.66	335	.46	20.66	125	.46	20.66	120	.46	20.66	80	.30	13.78
Meat, roast beef.....	38	4.05	18.69	38	1.84	5.61	26	1.05	4.88	33	1.34	6.17	31	1.36	6.31	31	1.26	5.79
Meat, cold roast beef.....	74	4.11	14.82	74	1.06	3.41	24	1.06	3.56	22	.97	3.26	133	1.46	4.89	26	1.15	3.85
Potatoes, baked.....	29	.39		23	.33		100	.39		97	.39		133	.60		115	.45	
Potatoes, mashed.....	121	.34	7.72	98	.33	7.57	121	.41	9.34	117	.40	9.03	107	.36	8.26	114	.39	8.80

Wheat cakes.....	1.46	11.39	60	.88	6.83	59	.86	6.72	64	.93	7.29	65	.95	7.40	68	7.75	63	.92	7.18
Grape jelly.....	.06		43	.63		50	.63		40	.02		33	.02		52		46	.03	
Oranges.....	.19		118	.22		76	.14					123	.23		126				
Corn flakes.....	1.12		16	.18		20	.22		17	.19		15	.17		12		16	.18	
Crackers.....	1.81	8.81	33	.60	2.91				34	.62	3.00	33	.60	2.91	12	43	33	.60	2.91
Watermelon.....			162	.16		166	.17		163	.16		174	.17		152	15	185	.14	
Stewed cauliflower.....	.24	.21	43	.10	.09	46	.11	.10	48	.12	.10	55	.13	.12	53	.11	44	.11	.09
Tomato consommé.....	.10	.20	146	.15	.29	176	.18	.35	176	.18	.35	176	.18	.35	90	.09	178	.18	.36
Beets.....	.14					42	.06		59	.08		56	.08		63	.09	65	.09	
Stewed raspberries.....			117	.12		117	.12		119	.12		104	.10		115	.12	106	.11	
Gravy.....	.26	10.05	56	.15	5.63	62	.16	6.23	61	.16	6.13	72	.19	7.24	81	.21	70	.18	7.04
Coffee.....	.05		200	.10		200	.10		200	.10		200	.10		200	.10	200	.10	
Ice tea.....	.01		200	.02		200	.02		200	.02		200	.02		200	.02	200	.02	
Total.....				9.56	125.04		11.56	145.01		9.44	93.79		9.63	143.79		10.54	149.91	10.13	159.02
<i>July 28, 1910.</i>																			
Bread.....	1.80	1.17	170	3.06	1.99	188	3.38	2.20	122	2.20	1.43	164	2.95	1.92	163	1.91	140	2.68	1.74
Butter.....	.13	87.30	91	.12	70.44	76	.10	66.35	21	.03	18.33	118	.14	96.03	88	.11	100	.14	95.16
Sugar.....			149			117			83			125			125		129		
Milk.....	.47	1.98	125	.61	2.48	325	1.59	6.44	325	1.59	6.44	125	.61	2.48	125	.61	125	.61	2.48
Cream.....	.39	17.68	120	.44	21.22	120	.44	21.22	120	.44	21.22	120	.44	21.22	120	.44	120	.44	21.22
Meat, fried liver.....	3.92	24.28	96	3.76	23.31	109	4.27	26.47	50	1.96	12.14	72	2.82	17.48	98	3.84	120	3.44	21.22
Do.....	3.50	10.66	78	2.73	8.31	85	2.98	9.06	48	1.68	5.12	83	2.91	8.85	77	2.70	87	3.05	9.27
Potatoes, baked.....	.38		51	.19		114	.43		100	.38		100	.38		177	.67	96	.36	
Do, hashed brown.....	.33	4.34	101	.33	4.38	103	.34	4.47	127	.42	5.51	101	.33	4.38	117	.39	104	.34	4.51
Scrambled eggs.....	1.47	8.31	70	1.63	5.82	73	1.07	6.07	78	1.15	6.48	112	1.65	9.31	113	1.66	97	1.43	8.06
Cantaloupe.....	.10		114	.11		186	.19		116	.12		141	.14		155	.16	88	.09	
Puffed rice.....	1.05		8	.08		11	.12		12	.13		10	.11		10	.11	13	.14	
Crackers.....	1.81	8.81	32	.58	2.82	16	.29	1.41	17	.31	1.50	31	.56	2.73	16	.29	32	.58	2.82
Peaches.....	.08		99	.08		125	.10		126	.10		122	.10		154	.12	141	.12	
Boiled cabbage.....	.21	4.84	97	.20	4.69	78	.16	3.78	75	.16	3.63	84	.18	4.07	75	.16	131	.18	
Beef broth.....	.27	.16	82	.05	.16	200	.54	.32	82	.22	.13	185	.50	.30	114	.31	188	.50	.30
Stewed apple sauce.....	.04		124	.13		124	.15		129	.05		152	.06		106	.08	135	.05	
Sliced tomato.....	.22		59	.13		62	.10		45	.10		54	.12		74	.16	40	.13	
Coffee.....	.05		200	.10		200	.10		200	.10		200	.10		200	.10	200	.10	
Ice tea.....	.01		400	.04		400	.04		400	.04		400	.04		600	.06	600	.06	
Total.....				13.90	154.62		16.33	147.79		11.18	81.93		14.04	168.77		14.90	154.12	10.83	145.56
<i>July 29, 1910.</i>																			
Bread.....	1.76	1.38	150	2.64	2.07	203	3.57	2.80	126	2.39	1.88	122	2.15	1.68	160	2.82	110	1.94	1.52
Butter.....	.12	87.77	91	.11	79.87	103	.12	90.40	38	.05	33.35	101	.12	88.65	94	.11	100	.09	67.58
Sugar.....			129			188			58			123			105		125		
Milk.....	.48	2.32	125	.60	2.90	325	1.56	7.54	123	.60	2.90	125	.60	2.90	125	.60	125	.60	2.90
Cream.....	.40	14.38	125	.42	15.31	125	.42	11.16	80	.32	11.66	80	.32	11.66	80	.32	80	.32	11.66
Meat, roast beef.....	4.27	21.11	24	1.32	6.34	29	1.24	6.12	18	.77	3.80	32	1.37	6.76	30	1.37	27	1.28	6.33
Do.....	5.39	16.60	24	1.34	3.98	26	1.45	4.32	16	.80	2.66	89	.32	4.15	25	1.40	27	1.51	4.48
Potatoes, baked.....	.36		78	.28		85	.31		57	.21		89	.32		120	.43	92	.33	
Do.....	.40		81	.32		172	.69		48	.19		89	.36		121	.48	77	.31	

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).				Subject No. 2 (H. W. A.).				Subject No. 3 (J. F. J.).				Subject No. 4 (W. S. G.).				Subject No. 5 (E. J. C.).				Subject No. 6 (P. L. N.).			
	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	
July 29, 1910—Con.																								
Wheat cakes.....	1.51	9.52	55	0.83	5.24	54	0.82	5.14	53	0.80	5.05	51	0.77	4.86	57	0.86	5.43	55	0.83	5.24	55	0.83	5.24	
Puffed rice.....	1.05		10	0.11		10			14	0.15		14			14			12	0.13		12			
Stewed apple sauce.....	1.04		84	0.03		78	0.03		32	0.58	2.82	87	0.03		100	0.04		100	0.04		100	0.04		
Crackers.....	1.81	8.81	30	0.54	2.64	191	1.51	4.30	201	1.59	4.52	33	1.47	4.19	208	1.64	4.68	32	0.58	2.82	32	0.58	2.82	
Baked custard.....	7.79	2.25	177	3.36	2.10	28	0.03	1.03	30	0.04	1.92	34	0.04	1.98	33	0.04	1.98	33	0.04	1.92	33	0.04	1.92	
Gravy.....	11	5.83	45	0.05	3.42	53	0.06	4.02	130	0.20		155	0.06	3.80	55	0.06	4.17	45	0.05	3.42	45	0.05	3.42	
Do.....	11	7.59	45	0.05	3.42	53	0.06	4.02	130	0.20		155	0.06	3.80	55	0.06	4.17	45	0.05	3.42	45	0.05	3.42	
Sliced tomatoes.....	15		159	0.48	4.45	149	0.45	4.42	148	0.44	4.41	187	0.56	5.52	163	0.49	4.46	149	0.45	4.42	149	0.45	4.42	
Tomato soup.....	30	28	400	0.20		200	0.10		200	0.10		200	0.10		200	0.10		200	0.10		200	0.10		
Coffee.....	0.05		200	0.02		200	0.02		200	0.02		200	0.02		200	0.02		200	0.02		200	0.02		
Ice tea.....	0.01																							
Total.....				10.73	128.50		12.44	138.35		9.30	69.05		7.80	123.09		11.57	128.93		9.55	110.50		9.55	110.50	
July 30, 1910.																								
Bread.....	1.74	1.45	165	2.87	2.39	222	3.86	3.22	55	0.96	0.80	129	2.24	1.87	159	2.77	2.31	120	2.09	1.74	120	2.09	1.74	
Butter.....	1.12	87.77	60	0.07	52.66	88	0.11	77.24	11	0.01	9.65	65	0.08	57.05	83	0.10	72.85	74	0.09	64.95	74	0.09	64.95	
Sugar.....			70			49			49			79			96			96			96			
Milk.....	4.49	23	125	0.61	29	275	1.35	0.63	200	0.98	0.46	125	0.61	0.29	125	0.61	0.29	125	0.61	0.29	125	0.61	0.29	
Cream.....	34	15.25	120	4.41	18.30	120	4.41	18.30	40	1.14	6.10	120	4.41	18.30	120	4.41	18.30	120	4.41	18.30	120	4.41	18.30	
Meat, roast beef.....	4.62	15.28	30	1.39	4.58	30	1.39	4.58	30	1.39	4.58	30	1.39	4.58	30	1.39	4.58	30	1.39	4.58	30	1.39	4.58	
Hash, meat.....	4.21	12.35	28	1.18	3.46	32	1.35	3.95	32	1.35	3.95	32	1.35	3.95	32	1.35	3.95	32	1.35	3.95	32	1.35	3.95	
Potatoes, baked.....	40		29	1.12		96	0.38		110	0.37	8.33	84	0.29	6.36	61	0.24	8.33	61	0.24	8.33	61	0.24	8.33	
Potatoes, mashed.....	34	7.57	106	0.36	8.02	117	0.40	8.86	110	0.37	8.33	84	0.29	6.36	225	0.77	17.03	116	0.39	8.78	116	0.39	8.78	
Creamed eggs.....	1.45	6.70	99	1.44	6.63	122	1.10	6.57	105	1.52	7.04	101	1.46	6.77	106	1.54	7.10	97	1.41	6.50	97	1.41	6.50	
Peaches.....	0.08		114	0.09		12	0.13		12	0.13		13	0.15		13	0.15		15	0.17		15	0.17		
Puffed rice.....	1.12		9	0.54	2.64	12	0.13		12	0.13		13	0.15		13	0.15		15	0.17		15	0.17		
Crackers.....	1.81	8.81	30	0.54	2.64	40	0.36	6.43	25	0.45	2.20	15	0.27	1.32	14	0.25	1.23	30	0.54	2.64	30	0.54	2.64	
Cake.....	1.90	16.07	35	0.32	5.62	40	0.36	6.43	25	0.45	2.20	15	0.27	1.32	14	0.25	1.23	30	0.54	2.64	30	0.54	2.64	
Radishes.....	11		21	0.02		20	0.03		30	0.03		30	0.03		22	0.02		38	0.34	11	44	40	7.07	
Stewed blackberries.....	39		210	0.82		241	0.94		130	0.51		230	0.90		251	0.98		149	0.58		149	0.58		
Gravy.....	11	7.59	40	0.04	2.96	44	0.05	3.34	21	0.03		41	0.05		34	0.05		34	0.05		34	0.05		
Do.....	26	9.43	41	0.11	3.87	39	0.10	3.68	37	0.10	3.49	34	0.09	3.21	46	0.09	3.21	37	0.10	3.49	37	0.10	3.49	
French peas.....	30		121	0.97		117	0.94		123	0.98		114	0.91		123	0.98		127	1.02		127	1.02		
Tomato cream.....	28	1.02	164	0.46	1.67	163	0.46	1.66	95	0.27	0.97	90	0.25	1.92	171	0.48	1.74	178	0.50	1.83	178	0.50	1.83	

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).				Subject No. 2 (H. W. A.).				Subject No. 3 (J. F. J.).				Subject No. 4 (W. S. G.).				Subject No. 5 (E. J. C.).				Subject No. 6 (P. L. N.).			
	Nitrogen.	Ether ex-tract.	Amount of		Ether ex-tract.	Amount of		Ether ex-tract.	Amount of		Ether ex-tract.	Amount of		Ether ex-tract.	Amount of		Ether ex-tract.	Amount of		Ether ex-tract.	Amount of			
			Grams.	Per cent.		Grams.	Per cent.		Grams.	Per cent.		Grams.	Per cent.		Grams.	Per cent.		Grams.	Per cent.		Grams.	Per cent.	Grams.	Per cent.
<i>Aug. 1, 1910—Con.</i>																								
Gravy.	0.12	8.00	79	6.32	88	0.11	7.04	203	0.16	3.20	7.76	97	0.12	8.08	96	0.12	7.68	204	0.12	8.08	96	0.12	7.68	
Vegetable consommé.	.08	.10	200	.20	207	.17	.21	56	.16	3.85	.21	213	.17	.21	57	.17	.20	204	.16	.20	204	.16	.20	
String beans.	.29	6.87			55	.16	3.78	200	.12			200	.12		200	.12		200	.12		200	.12		
Coffee.	.06		200	.12				400	.08			400	.08		400	.08		400	.08		400	.08		
Ice tea.	.02		400																					
Total.						13.28	133.44			8.18	52.15			9.23	126.95			13.40	149.68			10.56	132.80	
<i>Aug. 2, 1910.</i>																								
Bread.	1.81	1.52	149	2.26	197	3.57	2.99	152	2.75	2.31	2.22	146	2.64	2.22	229	4.14	3.48	2.39	3.48	2.22	229	4.14	3.48	
Butter.	.12	86.38	86	.10	74.29	.06	46.65	33	.04	28.51	.91	129	.11	78.61	78	.09	67.38	.10	67.38	.91	129	.11	78.61	
Sugar.			168					83				129			67									
Milk.	.49	2.87	125	3.59	125	.61	3.59	125	.61	3.59	125	125	.61	3.59	125	.61	3.59	.61	3.59	125	125	.61	3.59	
Cream.	.41	16.44	120	19.73	120	.49	19.73	40	.16	6.58	120	49	.49	19.73	120	.49	19.73	.49	19.73	120	49	.49	19.73	
Meat, cold boiled ham	3.07	21.28	36	1.11	7.66	.86	5.96	30	.77	6.38	34	20	1.04	7.24	31	1.04	7.24	35	7.45	35	1.07	7.45		
Do.	3.07	22.77	24	.74	5.46		8.88	25	.92	5.69	.20	4.55	.61	4.55	31	.95	7.06	.83	6.15	27	.83	6.15		
Potatoes, hashed brown.	.42	10.97	91	38	9.98	.51	13.38	101	.42	11.08	.99	99	.42	10.86	87	.37	9.54	.43	11.19	102	.43	11.19		
Potatoes, scalloped.	.35	1.23	72	.25	89	.83	29	1.02	.77	95	.85	30	1.05	76	.27	.93	.83	.29	1.02	83	.27	.93		
French omelet.	1.43	14.04	56	.80	7.86	.93	9.13	42	.60	4.90	8.70	62	.89	8.70	36	.51	5.05	.90	8.85	63	.51	5.05		
Puffed rice.	1.12		9	.10	12	.13		13	.15			12	.13		13	.15		.15		13	.15			
Oranges.	.18		116	.21		103	.19					145	.26											
Current jelly.	.04		43	.02		49	.02		.02			45	.02		47	.02		.01		36	.01			
Crackers.	1.81	8.81	31	.36	2.73			31	.56	2.73		30	.54	2.64	32	.58	2.82	.56	2.73	31	.56	2.73		
Beets.	.18							39	.07			47	.08		42	.08		.01		36	.01			
Peaches.	.12		115	.14	.07	.16		41	.07			32	.58		32	.58		.01		31	.56			
Celery soup.	.07	.30	199	.14	.60	.15	.64	213	.15	.65	.12	206	.14	.62	132	.16	.65	.14	.62	117	.14	.62		
Blackberries.	.25		85	.21				83	.20			85	.21		85	.21		.22		86	.22			
Baked beans.	1.16	2.01	98	1.14	1.97	1.17	2.63	53	.91	1.07	1.14	98	1.14	1.97	200	1.32	2.29	1.81	3.14	156	1.81	3.14		
Coffee.	.06		200	.12				200	.12			400	.08		400	.12		.08		200	.12			
Ice tea.	.02		400	.08				400	.08			400	.08		400	.12		.08		400	.08			
Total.						10.70	114.00			8.50	75.44			9.83	141.78			11.62	129.76			10.42	139.90	

Aug. 3, 1910.

Bread.....	1.76	1.74	153	2.69	2.66	212	3.73	3.69	114	2.01	1.98	135	2.38	2.35	145	2.55	2.52	144	2.53	2.51
Butter.....	.12	86.38	146	.14	100.20	82	.10	70.83	46	.05	34.55	51	.06	44.05	123	.15	106.25	93	.11	82.06
Sugar.....			125	.69	4.05	125	.69	4.05	125	.69	4.05	125	.69	4.05	125	.69	4.05	125	.69	4.05
Milk.....	.47	3.25	125	.47	4.05	125	.47	21.74	120	.47	21.74	120	.47	21.74	120	.47	21.74	120	.47	21.74
Cream.....	.39	18.12	40	.16	7.25	120	.47	21.74	120	.47	21.74	120	.47	21.74	120	.47	21.74	120	.47	21.74
Meat, Spanish hash.....	3.25	16.47	49	1.69	8.07	41	1.33	6.75	40	1.30	6.59	38	1.24	6.26	32	1.04	5.27	42	1.37	6.92
Meat, roast leg of cal.....	4.06	10.11	38	1.54	3.84	33	1.34	3.34	38	1.34	3.84	70	.25	1.61	15	.61	1.32	38	1.54	3.84
Potatoes, baked.....	.36		77	.28		92	.33		68			70	.25		170	.61		78	.28	
Do.....	.39		60	.23		76	.30		70	.27		72	.28		112	.44		69	.27	
Wheat cakes.....	1.51	8.23	49	.24	4.03	51	.77	4.20	54	.82	4.44	65	.98	5.35	94	1.42	7.74	39	.89	4.86
Stewed peaches.....	1.06		100	.08		104	.08		124	.10		108	.09		113	.09		131	.10	
Puffed rice.....	1.81	8.81	32	.38	2.82	13	.14		33	.60	2.91	31	.36	2.73	31	.56	2.73	31	.56	2.73
Crackers.....	.20					104	.21		102	.20		101	.20		112	.22		101	.20	
Stewed blackberries.....	.64		64	.08		58	.07					42	.05		48	.06		30	.04	
Radishes.....	.22	2.34	128	.28	3.00	111	.24	2.60				118	.26	2.76	122	.27	2.85	72	.45	.64
Boiled cabbage.....	.62	.89	75	.47	.67	70	.43	.62	73	.45	.65	40	.25	.36	70	.43	.62	90	.17	6.68
Vanilla cream.....	.19	7.42	76	.14	5.64	91	.17	6.75				64	.12	4.75	36	.07	2.67	181	.24	1.61
Gravy.....	.13	.89	172	.22	1.53	182	.24	1.62	179	.23	1.59	191	.25	1.70	192	.25	1.71	200	.12	
Vegetable purée.....	.06		200	.12		200	.06		200	.12		200	.06		200	.06		200	.06	
Coffee.....	.03		200	.06		200	.06		200	.06		200	.06		200	.06		200	.06	
Fruit punch.....	.02		200	.04		400	.08		200	.04		200	.04		200	.04		200	.04	
Ice tea.....																				
Total.....				10.11	143.77		10.08	126.20		9.21	82.35		8.23	96.11		10.16	159.08		10.19	137.65

Aug. 4, 1910.

Bread.....	1.73	.92	167	2.89	1.54	216	3.74	1.99	45	.78	.41	160	2.77	1.47	167	2.89	1.54	112	1.94	1.03
Butter.....	.11	86.84	106	.12	92.05	95	.10	82.50	24	.03	20.84	107	.12	92.92	127	.14	110.29	76	.08	66.00
Sugar.....	.49		150	.61		122	.61		69	.61		70	.61		56	.61		73		
Milk.....	.38	18.13	125	.40	4.13	125	.40	4.13	125	.40	4.13	125	.40	4.13	125	.40	4.13	125	.40	4.13
Cream.....	.38	18.13	80	.30	14.50	120	.46	21.76	120	.46	21.76	120	.46	21.76	120	.46	21.76	120	.46	21.76
Meat, steak.....	5.02	15.26	27	1.52	4.12	26	1.46	3.97	28	1.57	4.27	18	1.01	2.75	20	1.12	3.05	32	1.80	4.88
Hash, meat.....	4.42	10.29	38	1.08	3.91	28	1.24	2.88				19	.84	1.96	18	.80	1.85	33	1.46	3.40
Potatoes, mashed.....	.32	7.39	90	.29	6.65	97	.31	7.17	97	.31	7.17	93	.30	6.87	94	.30	6.95	98	.31	7.24
Potatoes, baked.....	.36		87	.31		112	.40		95	.34		88	.32		157	.57		79	.28	
Wheat cakes.....	1.80	7.62	56	.90	4.27	64	1.02	4.88	60	.96	4.57	52	.83	3.96	113	1.81	8.61	53	.85	4.04
Puffed rice.....	1.06		9	.10		11	.12		12	.13		11	.12		11	.12		12	.13	
Stewed apple sauce.....	.04		221	.09		214	.09		117	.05		212	.08		216	.09		199	.08	
Crackers.....	1.81	8.81	33	.60	2.91				33	.60	2.91	33	.60	2.91	20	.36	1.76	33	.60	2.91
Fruit tapioca.....	.18	.04	88	.03	.04	123	.04	.05	45	.11	.02	114	.03	.05	95	.03	.04	94	.03	.04
Beets.....	.13					86	.15		59			85	.15		91	.16		69	.12	
Gravy.....	.19	7.42	39	.07	2.89	45	.09	3.34				41	.08	3.04	44	.08	3.26	42	.08	3.12
Do.....	.20	9.93	44	.09	4.37	49	.10	4.87				54	.11	5.30				45	.09	4.47
Tomato cream.....	.39	1.38	118	.46	1.63	226	.88	3.12	215	.84	2.97	64	.25	.88	123	.48	1.70	217	.85	2.99
Coffee.....	.06		200	.12		200	.06		200	.12		200	.06		200	.06		200	.12	
Ice tea.....	.02		400	.08		400	.08		400	.08		400	.08		400	.08		400	.08	
Total.....				10.26	143.01		10.89	140.66		7.00	69.05		8.76	148.06		10.22	164.94		9.97	126.01

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).				Subject No. 2 (H. W. A.).				Subject No. 3 (J. F. J.).				Subject No. 4 (W. S. G.).				Subject No. 5 (E. J. C.).				Subject No. 6 (P. L. N.).			
	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	Amount of food.	Nitrogen.	Ether ex-tract.	
<i>Aug. 5, 1910.</i>																								
Bread.....	1.83	2.10	146	3.07	7.65	203	3.71	4.26	83	1.52	3.21	153	1.74	3.21	100	1.83	2.10	94	1.72	2.10	94	1.72	2.10	
Butter.....	.11	86.84	86	.09	74.68	73	.08	63.39	28	.03	85.97	99	.11	85.97	97	.11	84.23	93	.10	84.23	93	.10	80.76	
Sugar.....			136			135			96			106			66			102			102			
Milk.....	.48	3.18	125	.60	3.98	125	.60	3.98	125	.60	3.98	125	.60	3.98	125	.60	3.98	125	.60	3.98	125	.60	3.98	
Cream.....	.34	14.57	120	.41	17.48	120	.41	17.48	120	.41	17.48	120	.41	17.48	120	.41	17.48	120	.41	17.48	120	.41	17.48	
Meat, hash.....	2.25	6.37	53	1.19	3.38	49	1.10	3.12	45	1.01	2.87	44	.99	2.80	14	.32	.89	47	1.06	2.99	47	1.06	2.99	
Meat, pot roast, beef.....	4.54	16.39	30	1.36	4.92	37	1.68	6.06	24	1.09	3.93	84	.32		128	.49		35	1.59	5.74	35	1.59	5.74	
Potatoes, baked.....	.38		102	.39		41	.16		41	.16		84	.32		128	.49		93	.35		93	.35		
Potatoes, hashed.....																								
Potatoes, brown.....	.39	8.90	86	.34	7.65	86	.34	7.65	95	.37	8.46	91	.35	8.10	92	.36	8.19	89	.35	8.19	89	.35	7.92	
Wheat cakes.....	1.45	9.46	59	.86	5.58	53	.77	5.01	50	.73	4.73	62	.90	5.87	123	1.78	11.64	53	.77	5.01	53	.77	5.01	
Puffed rice.....	1.04		9	.09		11	.11		15	.16		15	.16		15	.16		15	.16		15	.16		
Bananas.....	.18		87	.16		90	.16		25	.49	2.16	33	.64	2.85	95	.17		49	.09		49	.09		
Crackers.....	1.94	8.65	22	.62	2.77	56	.43	8.44	67	.51	10.10	43	.36	8.54	62	.47	9.34	58	.44	8.74	58	.44	8.85	
Cake.....	.76	15.07	76	.58	11.45	42	.08	4.17	28	.04	.03	27	.04	4.27	46	.09	4.57	50	.10	4.97	50	.10	4.97	
Gravy.....	.20	9.93	42	.08	4.17	28	.04	.03	27	.04	.03	27	.04	.03	74	.02	.03	33	.05	.04	33	.05	.04	
Catsup.....	.03	.04	90	.03	.04	109	.03	.04	72	.02	.03	98	.03	.04	74	.02	.03	82	.02	.03	82	.02	.03	
Fruit, apples.....	.26		53	.14		53	.14		205	.57	.16	212	.59	.17	212	.59	.17	201	.56	.16	201	.56	.16	
Sliced tomatoes.....	.28	.08	187	.52	.15	232	.65	.19	122	.16		124	.16		158	.21		150	.20		150	.20		
Vegetable soup.....	.13		99	.13		126	.16		200	.12		200	.12		200	.12		200	.12		200	.12		
Peas.....	.06		200	.12		400	.08		400	.08		400	.08		400	.08		400	.08		400	.08		
Coffee.....	.02		400	.08		400	.08		400	.08		400	.08		400	.08		400	.08		400	.08		
Ice tea.....																								
Total.....			9.97	139.35		10.96	123.82		8.07	79.99		8.82	140.20		8.05	143.83		9.41	142.64					
<i>Aug. 6, 1910.</i>																								
Bread.....	1.88	1.67	159	2.99	2.66	200	3.76	3.34	82	1.54	1.37	135	2.54	2.25	179	3.37	2.99	165	3.10	2.99	165	3.10	2.76	
Butter.....	.11	86.84	75	.08	65.13	46	.05	39.95	24	.03	20.84	65	.07	56.45	93	.10	80.76	90	.10	80.76	90	.10	78.16	
Sugar.....			165			123			84			91			73			83			83			
Milk.....	.55	3.16	125	.69	3.95	125	.69	3.95	125	.69	3.95	125	.69	3.95	125	.69	3.95	125	.69	3.95	125	.69	3.95	
Cream.....	.46	15.69	120	.55	18.83	120	.55	18.83	120	.55	18.83	120	.55	18.83	120	.55	18.83	120	.55	18.83	120	.55	18.83	
Meat, pot roast, beef.....	4.84	20.10	39	1.89	7.84	34	1.65	6.83	38	1.84	7.64	71	.29	3.49	116	.48	5.70	105	1.84	7.64	105	1.84	7.64	
Meat, roast beef.....	4.42	21.34	30	1.33	6.40	34	1.50	7.26	30	1.84	7.64	71	.29	3.49	116	.48	5.70	105	1.84	7.64	105	1.84	7.64	
Potatoes, mashed.....	.41	4.91	106	.43	5.20	105	.43	5.16	105	.43	5.16	105	.43	5.16	105	.43	5.16	105	.43	5.16	105	.43	5.16	

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).				Subject No. 2 (H. W. A.).				Subject No. 3 (J. F. J.).				Subject No. 4 (W. S. G.).				Subject No. 5 (E. J. C.).				Subject No. 6 (P. L. N.).	
	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether ex- tract.	Amount of food.	Nitrogen.	Grams.	Ether ex- tract.	Amount of food.	Nitrogen.	Grams.	Ether ex- tract.	Amount of food.	Nitrogen.	Grams.	Ether ex- tract.	Amount of food.	Nitrogen.	Grams.	Ether ex- tract.	
<i>Aug. 8, 1910—Con.</i>																						
Meat, roast leg of mutton.....	4.41	17.18	35	1.54	6.01	31	1.37	5.33				83	0.42	4.98	79	.40	4.74	85	1.01	3.95	35	1.54
Meat, hash.....	3.18	21.75	31	.99	3.74	32	1.02	6.96				26	0.83	5.66	9	.29	1.96	37	1.18	8.05	6.01	
Potatoes, mashed.....	.39	5.76	72	.28	4.15	121	.47	6.97				106	.41	6.11	126	.49	7.26	75	.29	4.32	4.32	
Potatoes, hashed brown.....	.50	6.00	71	.36	4.26	77	.39	4.62				83	0.42	4.98	79	.40	4.74	85	.43	5.10	89	5.34
Wheat cakes.....	1.41	5.05	65	.92	3.28	61	.86	3.08				52	.03	2.53	60	.85	3.03	78	1.10	3.94	61	86
Current jelly.....	.06		97	.06		94	.06					114	.07		117	.07		90	.05		74	.04
Corn flakes.....	1.18		13	.15		16	.19					14	.17		14	.20		12	.14		33	
Crackers.....	1.94	8.65	33	.64	2.85	32	.62	2.77				32	.62	2.77	33	.64	2.85	17	.33	1.47	33	64
Cookies.....	1.17	14.68	13	.15	1.91	13	.15	1.91				12	.14	1.76	12	.14	1.76	14	.16	2.06	14	16
Baked rice custard.....	.77	1.23	80	.62	.98	178	1.27	2.10				177	1.36	2.18	182	1.40	2.24	178	1.37	2.19	174	1.34
Gravy.....	.51	3.58	23	.23	1.61	45	.23	1.61				42	.21	1.50	43	.22	1.54	41	.21	1.47	41	21
French peas.....	.81	.32	123	1.00	.39	121	.98	.39				123	1.00	.39	124	1.00	.40	131	1.06	.42	124	1.00
Slaw.....	.25		15	.04	.06	24	.06					25	.06		25	.06		40	.08	.08	28	.07
Fudge.....	.39	.20	47	.18	.09	44	.17	.09				44	.17	.09	52	.20	.10	42	.16	.08	42	.16
Vegetable purée.....	.19	.18	186	.35	.33	181	.34	.33				190	.36	.34	179	.34	.32	186	.35	.33	177	.34
Coffee.....	.06		200	.12		300	.12					200	.12		200	.12		200	.12		200	.12
Ice tea.....	.02		400	.08		400	.08					400	.08		400	.08		400	.08		400	.08
Total.....				10.59	110.90		12.11	118.15		6.42	45.30		9.67	110.43		11.15	135.47		10.88	124.22		
<i>Aug. 9, 1910.</i>																						
Bread.....	1.83	1.28	150	2.75	1.92	197	3.61	2.52				28	.51	.36	130	2.38	1.66	204	3.73	2.61	112	2.05
Butter.....	.11	88.20	62	.07	54.63	52	.06	45.86				8	.01	7.06	76	.08	67.03	74	.08	65.27	74	.08
Sugar.....	.51		138	.64		137	.64					51	.64		64			107	.64		98	
Boiled milk.....	.38	1.92	125	.46	2.40	125	.46	2.40				125	.64	2.40	125	.64	2.40	125	.64	2.40	125	.64
Cream.....	.38	19.23	120	.46	23.08	120	.46	23.08				80	.30	15.38	120	.46	23.08	120	.46	23.08	120	.46
Meat, cold boiled ham.....	3.02	32.20	38	1.15	12.24	35	1.06	11.27				28	.85	9.02	39	1.18	12.56	37	1.12	11.91	37	1.12
Meat, steak.....	4.54	17.42	28	1.27	4.88	26	1.18	4.53				28	.85	9.02	39	1.18	12.56	37	1.12	11.91	37	1.12
Potatoes, hashed brown.....	.34	8.58	111	.38	9.52	98	.33	8.41				107	.36	9.18	111	.38	9.52	101	.34	8.67	92	.31
Do.....	.39	11.82	102	.40	12.65	87	.42	12.65				87	.34	10.28	98	.38	11.58	100	.39	11.82	79	.31
Cream omelet.....	1.69	12.68	90	1.52	11.41	95	1.61	12.05				76	.30		66	1.13	8.50	96	1.62	12.17	60	1.01
Crowed blackberries.....	.40		70	.28		88	.35					76	.30		66	.26		67	.27		84	.34

Daily food chart—Continued.

Date and kind of food.	Nitrogen.	Ether extract.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
			Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.
			Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
<i>Aug. 11, 1910—Con.</i>	<i>Per cent</i>	<i>Per cent</i>																		
Crackers.....	1.94	8.65	34	0.66	2.94	34	0.66	2.94	33	0.64	2.85	33	0.64	2.85	8	0.16	0.69	31	0.60	2.63
Oranges.....	1.18	12	112	0.21	118	112	0.21	118	137	0.25	138	137	0.25	138	138	0.25	139	119	0.21	12
Gravy.....	1.12	5.12	88	1.11	4.51	92	1.11	4.71	105	1.13	5.38	105	1.13	5.38	66	0.08	3.38	100	0.12	5.12
French peas.....	1.78	46	164	1.28	75	158	1.23	73	163	1.27	75	163	1.27	75	130	0.20	123	18	0.18	12
Sliced tomatoes.....	1.15	15	120	0.18	120	120	0.18	120	126	0.19	126	126	0.19	126	130	0.20	123	18	0.18	12
Celery soup.....	0.07	30	132	0.09	40	226	0.16	68	217	0.15	65	192	0.13	58	118	0.08	35	200	0.14	60
Baked apple sauce.....	0.06	96	88	0.05	88	88	0.05	88	100	0.06	103	103	0.06	122	122	0.07	111	111	0.07	10
Coffee.....	0.05	200	200	0.10	200	200	0.10	200	200	0.10	200	200	0.10	200	200	0.10	200	200	0.10	10
Beer.....	0.07	500	500	0.35	500	500	0.35	500	500	0.35	500	500	0.35	500	500	0.35	500	500	0.35	10
Total.....				10.70	136.40		14.28	140.75		10.14	90.82		9.49	115.98		7.53	94.62		10.28	126.48
<i>Aug. 12, 1910.</i>																				
Bread.....	1.67	1.17	91	1.52	1.06	214	3.57	2.50	101	1.69	1.18	69	1.15	.81	60	1.00	.70	79	1.32	.92
Butter.....	1.10	85.62	91	0.09	77.91	83	0.09	79.63	32	0.03	27.40	83	0.08	71.06	92	0.09	78.77	77	0.08	65.93
Sugar.....	.49	3.18	125	.61	3.98	125	.61	3.98	125	.61	3.98	125	.61	3.98	39	.61	3.98	125	.61	3.98
Milk.....	3.38	18.33	28	1.11	5.13	120	0.46	22.00	120	0.46	22.00	120	0.46	22.00	120	0.46	22.00	120	0.46	22.00
Boiled halibut.....	4.14	1.89	30	1.41	4.69	31	1.45	4.84	37	1.53	.70	78	3.23	1.47	80	3.31	1.51	70	2.90	1.32
Meat, lamb cutlets.....	4.69	15.62	30	1.41	4.69	31	1.45	4.84	37	1.53	.70	78	3.23	1.47	80	3.31	1.51	70	2.90	1.32
Potatoes, baked.....	.36	41	86	.35	43	104	.43	43	112	.46	43	112	.46	43	182	.75	43	105	.43	5.15
Do.....	.36	41	86	.35	43	104	.43	43	112	.46	43	112	.46	43	182	.75	43	105	.43	5.15
French omelet.....	1.51	8.39	113	1.71	9.48	133	0.48	4.36	54	.82	4.53	94	.82	4.53	109	.39	9.48	113	.41	4.53
Currant jelly.....	.06	38	38	0.02	38	48	0.03	48	41	0.02	48	50	0.03	48	37	0.02	47	47	0.03	48
Pears.....	.07	315	22	.22	254	254	.18	18	257	.18	18	319	.22	257	319	.22	257	143	.10	2.77
Shredded wheat.....	1.86	28	28	.62	2.77	27	.50	50	28	.52	2.60	28	.52	2.60	29	.54	27	32	.50	2.77
Crackers.....	1.94	8.65	32	.62	2.77	105	.06	105	30	.58	2.60	29	.56	2.51	18	.01	127	50	.03	2.77
Baked apple sauce.....	.06	145	145	.09	145	145	.09	145	131	.08	131	36	.04	131	27	.03	127	50	.03	2.77
Radishes.....	.11	37	29	.03	32	32	.04	32	152	1.20	.56	36	.04	152	27	.03	127	50	.03	2.77
French peas.....	.79	37	154	1.22	1.57	154	1.22	1.57	152	1.20	.56	36	.04	152	27	.03	127	50	.03	2.77
Tomato sauce.....	.11	22	52	.06	1.15	43	.05	1.15	41	.05	.91	41	.05	.91	41	.05	.91	46	.05	1.02
Gravy.....	.33	5.12	43	.05	2.20	41	.05	2.20	43	.05	2.20	43	.05	2.20	108	.36	5.41	180	.59	2.36
Clam chowder.....	.33	5.01	209	.69	10.47	185	.61	9.27	198	.65	9.92	208	.69	10.42	108	.36	5.41	180	.59	2.36
Stewed cabbage.....	.12	2.04	71	.09	1.45	69	.08	1.41	81	.10	1.65	70	.08	1.43	72	.09	1.47	180	.59	2.36

Coffee	.05																			
Beer	.07	500	8.62	119.14		13.77	133.21	200	.10	8.48	77.26	10.58	121.86	200	.10	9.69	123.32	200	.10	10.70
Total																				
Aug. 13, 1910.																				
Bread	1.70	1.55	161	2.74	2.50	225	3.83	3.49	112	1.90	1.74	113	1.92	1.75	161	2.74	2.50	97	1.65	1.50
Butter	.10	85.62	121	.12	103.60	60	.08	68.50	31	.03	26.54	93	.09	79.63	81	.08	69.35	80	.08	68.50
Sugar		32							25			59			66			74		
Milk	.49	3.02	125	.61	3.78	325	1.59	9.82	395	1.50	9.82	125	.61	3.78	125	.61	3.78	125	.61	3.78
Cream	.39	18.16	47		21.79	80	.31	21.79	80	.31	14.53	120	.47	21.79	120	.47	21.79	120	.47	21.79
Hash, meat	4.09	16.38	40	1.64	6.55	36	1.47	5.90							17	.70	2.78	33	1.43	5.73
Meat, steak	5.46	12.13	23	1.26	2.79	25	1.37	3.03							15	.82	1.82	28	1.53	3.46
Potatoes, mashed																				
Potatoes, sweet	.28	5.00	120	.34	6.72	118	.33	6.61	33	.09	1.85	124	.35	6.94	67	.19	3.75	120	.34	6.72
Potatoes, pulled																				
Sweet	.57	5.16	76	.43	3.92	73	.42	3.77				77	.44	3.97	82	.47	4.23	81	.46	4.18
Cream onielet	1.67	12.31	82	1.37	10.09	101	1.69	12.43	46	.77	5.66	82	1.37	10.09	99	1.65	12.19	77	1.29	9.48
Fruit sirup	.08		28	.03		41	.03		43	.02		38	.03		41	.03		47	.04	
Oranges	.20		98	.20								120	.24		114	.23				
Crackers	1.94	8.65	34	.66	2.94							32	.62	2.77				33	.64	2.85
French peas	.79	.35				210	1.66	.74	266	1.63	.72	206	1.63	.72				40	.02	
Baked apple sauce	.06		94	.03		51	.03	.97	85	.05		100	.06		86	.05		81	.08	1.02
Baked beans	1.21	1.26	127	1.54	1.60	77	.33	.97	168	.22	.94	173	.22	.97	87	1.05	1.10	172	.22	.96
Vegetable purée	.13	.56	139	.21	.89	172	.22	.96				31	.65					34	.06	
Lettuce	.17		32	.05		32	.05		33	.06		105	.08		129	.10		111	.09	
Peas	.08					144	.12					105	.08					48	.09	2.51
Gravy	.18	5.22	44	.08	2.30	47	.08	2.45	36	.06	1.88	42	.08	2.19	28	.54	.08	29	.56	
Shredded wheat	1.93		31	.60		31	.60		30	.58		29	.56		200	.10		200	.10	
Coffee	.05								200	.10								500	.35	
Beer	.07		500	.35																
Total																				
Aug. 14, 1910.																				
Bread	1.65	1.04	140	2.31	1.46	170	2.81	1.77	136	2.24	1.41	176	2.90	1.83	198	3.27	2.06	126	2.08	1.31
Butter	.13	88.74	63	.08	55.91	64	.08	56.79	79	.10	70.10	90	.12	79.87	63	.08	55.91	80	.10	70.99
Sugar			75			69			27			63			77			71		
Milk	.49	3.13	125	.61	3.91	525	2.57	16.43	525	2.57	16.43	125	.61	3.91	125	.61	3.91	125	.61	3.91
Cream	.36	22.61	120	.43	27.13	120	.43	27.13	120	.43	27.13	120	.43	27.13	120	.43	27.13	120	.43	27.13
Meat, roast beef	4.40	11.95	27	1.19	3.23	29	1.28	3.47				27	1.21	5.14				37	1.63	4.42
Hash, meat	4.47	19.03	30	1.34	5.71	34	1.52	6.47				27	1.21	5.14				34	1.52	6.47
Potatoes, mashed	.29	4.57	102	.30	4.66	114	.33	5.21				102	.30	4.66	103	.47	7.45	101	.29	4.62
Potatoes, stewed	.23					108	.25					102	.30	4.66	95	.22		54	.12	
Scrambled eggs	1.49	7.75	113	1.68	8.76	112	1.67	8.68	93	1.39	7.21	81	1.21	6.28	105	1.56	8.14	106	1.58	8.22
Cantaloup	.12		82	.10		171	.11					126	.15		111	.13		96	.12	
Puffed rice	.99		9			11	.11		14	.14		14	.14		11	.11		17	.17	
Crackers	1.94	8.65	34	.66	2.94				34	.66	2.94	32	.62	2.77				34	.66	2.94
French peas	.78	.46				187	1.46	.86	187	1.46	.86	190	1.48	.87						
Baked apples	.07		93	.07		96	.07					117	.08		116	.08		46	.03	
Boiled rice	.40	.05				64	.26	.03	68	.23	.03	66	.25	.03	69	.28	.03	67	.27	.03

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (B. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	
	Per cent	Per cent	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	
Aug. 14, 1910—Con.																		
Gravy.....	0.18	5.22	77	0.14	4.02	83	0.15	4.33	75	0.14	3.92	41	0.07	2.14	88	0.16	4.59	
Tonato soup.....	.11	.27	202	.22	.55	181	.20	.49	232	.24	.60	182	.20	.49	129	.10	.....
Stewed peaches.....	.08	.....	109	.09	.....	113	.09	.....	129	.10	.....	117	.09	.....	200	.10	.....
Coffee.....	.05	.....	200	.10	.....	200	.10	.....	200	.10	.....	200	.10	.....	500	.35	.....
Beer.....	.07	.....	500	.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....				9.76	118.28	.....	13.49	131.66	.....	9.80	130.63	.....	10.11	135.12	.....	7.60	109.22
Aug. 15, 1910.																		
Bread.....	1.51	1.53	6	.09	.09	59	.89	.90	55	.83	.84	56	.85	.86	45	.68	.69	
Do.....	1.68	1.30	104	1.75	1.35	167	2.81	2.17	126	2.12	1.64	87	1.46	1.13	125	2.10	1.63	
Butter.....	.13	88.74	81	.11	71.88	74	.10	65.67	34	.04	30.17	97	.13	86.08	82	.11	72.77	
Sugar.....	.49	3.41	125	.61	4.26	140	1.59	11.08	325	1.59	11.08	34	.61	4.26	125	.61	4.26	
Milk.....	.38	19.84	80	.30	15.87	120	.46	23.81	120	.46	23.81	120	.46	23.81	120	.46	23.81	
Meat, roast leg of veal.....	4.77	7.39	24	1.14	1.77	26	1.24	1.92	34	1.24	1.92	30	1.43	2.22	30	1.24	1.92	
Meat, corned beef.....	4.45	19.26	29	1.29	5.59	30	1.34	5.78	119	.42	.....	141	.49	6.55	34	1.51	3.41
Potatoes, baked.....	.35	.....	47	.16	.....	137	.48	.....	.....	.....	.....	.....	.....	.....	70	.25	.....
Potatoes, boiled (with corned beef).....	.31	1.19	32	.10	.06	95	.29	.18	.....	.11	.06	34	.11	.06	88	.27	17
French omelet.....	1.44	8.26	128	1.84	10.57	62	.89	5.12	68	.98	5.62	61	.88	5.04	84	1.21	6.94	
Fruit sirup.....	.08	.....	56	.05	.....	51	.04	.....	60	.05	.....	54	.04	.....	28	.02	.....
Oranges.....	.20	.....	134	.27	.....	123	.25	.....	144	.29	.....	144	.29	.....	126	.25	.....
Puffed rice.....	.99	.....	10	.10	.....	15	.15	.....	12	.12	.....	14	.14	.....	14	.14	.....
Crackers.....	1.94	8.65	33	.64	2.85	105	.22	8.00	31	.60	2.68	37	.72	3.20	8	.16	.69	
Gravy.....	.24	8.89	93	.22	8.27	90	.22	8.00	98	.24	8.71	49	.12	4.36	90	.22	8.00	
Baked apples.....	.07	.....	111	.08	.....	105	.07	.....	97	.07	.....	102	.07	.....	100	.07	.....
Slaw (red cabbage).....	.23	.....	35	.08	.....	28	.06	.....	32	.07	.....	27	.06	.....	30	.07	.....
French peas.....	.79	.....	38	.....	.....	199	1.57	.76	182	1.44	.69	179	1.41	.68	.....	.....	.....
Tonato cream.....	.19	1.18	75	.15	.92	85	.16	1.00	85	.16	1.00	96	.18	1.13	.....	.....	.....
Vegetable consommé.....	.16	2.01	94	.15	.19	84	.13	.17	90	.14	.18	91	.15	.18	.....	.....	.....
Boiled cabbage (with corned beef).....	.22	7.01	99	.22	6.94	101	.22	7.08	109	.24	7.64	97	.21	6.80	73	.50	.57	
Vanilla custard.....	.68	.78	71	.48	.55	78	.53	.61	80	.54	.62	80	.54	.62	200	.10	.....
Coffee.....	.05	.....	200	.10	.....	200	.10	.....	200	.10	.....	200	.10	.....	500	.35	.....

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.	Amount of	Nitrogen.	Ether ex-tract.
	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.
Aug. 17, 1910—Con.																		
Baked custard.....	174	1.39	20.13	196	1.57	22.68	198	1.58	22.91	201	1.61	23.26	201	1.61	23.26	175	1.40	20.25
French peas.....	85	.49	9.72	201	1.63	.98	200	1.62	.98	165	.68	18.86	165	.68	18.86	105	.43	12.00
Green gravy.....	85	.35	9.72	99	.41	11.32	169	.20	.12	237	.28	.17	200	.10	.10	200	.24	.14
Vegetable consommé.....	173	.21	.12	193	.23	.14	200	.10	.10	200	.10	.10	200	.10	.10	500	.35	.35
Coffee.....	200	.10	.35															
Beer.....	500	.35																
Total.....		13.17	168.09		20.08	241.18		11.51	131.01		5.82	63.94		13.11	191.36		12.13	167.00
Aug. 18, 1910.																		
Bread.....	171	2.89	2.12	230	3.89	2.85	179	3.03	2.22	109	1.84	1.35	104	3.28	2.41	181	3.06	2.24
Butter.....	76	.11	64.38	104	.15	88.10	41	.06	34.73	66	.09	55.91	107	.15	90.64	115	.16	97.42
Sugar.....	64			91			17			21			125			41		
Milk.....	125	.59	4.13	145	.68	4.79	125	.59	4.13	40	.14	7.62	125	.59	4.13	125	.42	22.85
Cream.....	80	.28	15.23	120	.42	22.85	120	.42	22.85	40	.14	7.62	111	.60	1.89	33	1.81	4.18
Meat, roast leg of lamb.....	32	1.75	4.05	35	1.91	4.43	35	1.91	4.43	40	.14	7.62	111	.60	1.89	33	1.81	4.18
Meat, roast loin of pork.....	22	1.19	4.47	23	1.25	4.67	23	1.25	4.67	40	.14	7.62	111	.60	1.89	33	1.81	4.18
Potatoes, hashed brown.....	100	.35	6.67	216	.76	14.41	107	.37	7.14	40	.14	7.62	130	.46	8.67	98	.34	6.54
Do.....	91	.29	6.17	99	.32	6.71	85	.27	5.76	40	.14	7.62	92	.29	6.24	93	.30	6.31
Wheat cakes.....	156	2.22	12.75	91	1.29	7.43	105	1.49	8.58	101	1.43	8.25	152	2.16	12.42	157	2.23	12.83
Puffed rice.....	11	.11	12.11	10	.10	7.11	12	.12	11.11	11	.11	11.11	12	.12	12.12	12	.12	12.12
Current jelly.....	37	.02	.06	42	.03	.07	47	.03	.07	51	.03	.07	50	.03	.07	55	.03	.07
Stewed apple sauce.....	178	.11	.10	247	.15	.10	164	.10	.08	141	.08	.08	263	.16	.16	140	.08	.08
French peas.....	81	.13	14.54	183	1.50	.99	175	1.44	.95	44	.07	7.90	130	.46	8.67	98	.34	6.54
Gravy.....	171	2.89	2.12	230	3.89	2.85	179	3.03	2.22	109	1.84	1.35	104	3.28	2.41	181	3.06	2.24
Celery consommé.....	191	.23	.32	205	.25	.35	194	.23	.33	44	.07	7.90	92	.29	6.24	93	.30	6.31
Stewed peaches.....	109	.08	.09	98	.07	.09	122	.09	.09	362	.43	.62	152	2.16	12.42	157	2.23	12.83
Radishes.....	29	.03	.03	29	.03	.03	130	.08	.08	127	.09	.09	135	.09	.09	200	.10	.10
Coffee.....	200	.10	.35				200	.10	.10	27	.03	.03	200	.10	.10	200	.10	.10
Beer.....	500	.35								200	.10	.10	200	.10	.10	500	.35	.35
Total.....		10.83	134.83		12.93	172.48		8.34	86.69		4.30	81.65		9.29	151.80		10.88	173.85

Aug. 19, 1910.

Bread.....	1.71	1.76	159	2.72	2.80	235	4.02	4.14	231	3.95	4.07	55	.94	.97	137	2.34	2.41	141	2.41	2.48
Butter.....	.14	84.71	85	.12	72.00	73	.15	93.18	37	.05	31.34	2		1.69	98	.14	83.02	94	.13	79.63
Sugar.....			39			26									49			64		
Milk.....	.47	3.22	125	.59	4.10	325	1.53	10.66	26	1.53	10.66			6.15	125	.59	4.10			
Cream.....	.38	15.37	110	.42	16.91	110	.42	16.91	110	.42	16.91	40	.15	6.15	110	.42	16.91	110	.42	16.91
Meat, roast pork.....	4.66	14.99	30	1.40	4.50	31	1.44	4.65	33	1.54	4.95			7	7	.33	1.05	32	1.49	4.80
Meat, pork chops.....	4.60	22.44	31	1.27	6.96	28	1.15	6.28	26	1.06	5.83			3	3	.12	.67	37	1.51	8.30
Potatoes, baked.....	.28		69	.19		226	.63								117	.33		63	.18	
Do.....	.36		53	.19		100	.36								105	.38		82	.30	
Wheat cakes.....	1.42	8.26	92	1.31	7.60	66	.94	5.45	59	.84	4.87	57	.02		166	2.36	13.71	162	2.30	13.38
Brown sugar syrup.....	.04		54	.02		69	.03		64	.03					66	.03		62	.02	
Oranges.....	.15		140	.21		122	.18								133	.20				
Puffed rice.....	1.05	11	11	.12		11	.12		15	.16		14	.15		13	.14		30	.24	4.39
Cake.....	.80	14.63	36	.29	5.27	129	.08	4.68	32	.26	4.68				34	.27	4.97			
Stewed apple sauce.....	.06		114	.07		127	.08		127	.08					121	.07		128	.08	
Gravy.....	.16	17.95	35	.06	6.28	43	.07	7.72	45	.07	8.08	41	.07	7.35	42	.07	7.54	46	.07	8.26
Boiled turnips.....	.33	8.06	44	.15	3.55	47	.16	3.79	54	.18	4.35	50	.17	4.03	48	.16	3.87	50	.17	4.03
Do.....	.10	1.62	111	.10		111	.10	1.80				222	.53	.78	95	.12	1.98			
Vegetable soup.....	.24	.35	206	.49	.72	105	.25	.35	209	.50	.73			.03	103	.53	.33	206	.49	.72
Boiled rice.....	.52	.36	85	.44	.31	96	.50	.35	99	.51	.36			.06	200	.06	.37	200	.06	.34
Coffee.....	.03		400	.12		200	.04								200	.04		200	.04	
Ice tea.....	.02		200	.04		200	.04								200	.04		200	.04	
Total.....				10.22	131.00		12.44	159.98		11.24	96.83		2.03	20.98		8.94	140.93		10.40	143.24

Aug. 20, 1910.

Bread.....	1.62	1.68	30	.40	.50	208	.37	3.49	159	2.58	2.67	135	2.19	2.27	134	2.17	2.25	86	1.39	1.44
Butter.....	.14	91.13	63	.09	57.41	78	.11	71.08	40	.06	36.45	43	.10	66.52	85	.14	85.06	91	.13	82.93
Sugar.....			159			22									85					
Milk.....	.40	2.68	125	.61	3.35	325	1.56	8.71	22	.61	3.35	125	.61	3.35	125	.61	3.35	125	.61	3.35
Cream.....	.42	17.35	110	.46	19.09	110	.46	19.09	110	.46	19.09	80	.34	13.88	80	.34	13.88	80	.34	13.88
Meat, roast beef.....	5.10	12.83	28	1.43	3.59	26	1.33	3.34				19	.11	2.74	24	1.40	3.46	20	1.17	2.88
Do.....	5.85	14.41	26	1.52	3.75	28	1.64	4.03												
Potatoes, hashed.....																				
Do.....	.30	7.91	75	.29	5.94	74	.29	5.86	73	.28	5.78	75	.29	5.94	122	.48	9.66	79	.31	6.26
Wheat cakes.....	.39	7.03	78	.30	5.48	79	.31	5.35	81	.32	5.69	82	.32	5.76	81	.32	5.69	85	.33	5.98
Brown sugar syrup.....	1.42	8.06	96	1.36	7.74	91	1.39	7.33	90	1.28	7.25				159	2.26	12.82	95	1.35	7.66
Peaches.....	.11		38	.02		49	.02								69	.02		56	.02	
Puffed rice.....	1.05		10	.11		120	.13		9	.09		10	.11		123	.14		112	.12	
Crackers.....	1.77	8.77	32	.57	2.81	11	.12		34	.60	2.98	34	.60	2.98	17	.30	1.49	33	.58	2.89
Cookies.....	1.00	14.94	11	.11		11	.11	1.64							10	.10	1.49	9	.09	1.34
Cake.....	.80	14.63	31	.25	4.54	31	.25	4.54							35	.28	5.12	38	.30	5.56
Pears.....	.07		161	.11		151	.11		164	.11					276	.19		118	.08	
Sliced tomatoes.....	.18		21			23			140	.25		117	.21		115	.21		120	.22	
Gravy.....	.33	8.06	37	.12	2.98	41	.14	3.30	36	.12	2.90	44	.15	3.55	19	.06	1.53	49	.16	3.95
Okra soup.....	.06	.69				237	.48	2.06				206	.32	1.42	110	.18	.76	204	.33	1.41
Stewed apple sauce.....	.16		114	.07		115	.07		203	.06		112	.07		118	.07		109	.07	
Coffee.....	.03		400	.12		200	.04					200	.04		200	.06		200	.05	
Ice tea.....	.02		200	.04		200	.04					200	.04		200	.04		200	.04	
Total.....				7.96	117.18		12.10	140.02		7.23	87.56		6.47	108.41		9.48	147.16		9.30	143.25

Daily food chart—Continued.

Date and kind of food.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
	Nitrogen.	Ether extract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	Amount of	Nitrogen.	Ether ex- tract.	
	Per cent	Per cent	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	
<i>Aug. 21, 1910.</i>																		
Bread.....	1.85	0.69	76	1.41	0.52	226	1.56	0.95	138	2.55	0.95	138	3.42	1.28	119	2.20	0.82	
Butter.....	.14	91.13	52	.07	47.39	33	.08	54.68	20	.05	30.07	76	.11	82.93	66	.09	57.41	
Sugar.....	.50	3.31	79	.63	4.14	136	.63	4.14	125	.63	4.14	125	.63	4.14	46	.63	4.14	
Boiled milk.....	.32	18.01	100	.32	18.01	100	.32	18.01	100	.32	18.01	70	.32	18.01	100	.32	18.01	
Cream.....	.49	9.15	27	1.32	2.47	29	1.42	2.65	20	.98	1.83	28	1.37	2.56	34	1.67	3.11	
Meat, poited veal.....	4.90	11.96	26	1.26	3.11	33	1.60	3.95	21	1.02	2.51	35	1.70	4.19	33	1.60	3.95	
Do.....	.48	11.96	26	1.26	3.11	33	1.60	3.95	21	1.02	2.51	35	1.70	4.19	33	1.60	3.95	
Potatoes, mashed.....	.29	4.79	112	.32	5.36	103	.30	4.93	115	.33	5.51	122	.36	5.99	121	.35	6.80	
Do.....	.31	4.91	95	.08	1.23	106	.08	1.23	106	.33	5.20	111	.34	5.45	125	.34	5.45	
Creamed eggs.....	1.40	8.33	98	1.37	8.16	101	1.41	8.41	86	1.20	7.16	94	1.32	7.83	125	1.75	10.41	
Cantaloupe.....	.21	1.56	139	.29	.83	232	.29	.83	49	1.04	.80	144	.30	.69	52	.26	.81	
Crackers.....	2.04	1.56	53	1.08	1.00	49	1.00	.76	51	1.04	.80	49	1.00	.76	44	1.06	.81	
String beans.....	1.77	8.77	33	.58	2.89	52	.11	.84	9	.16	.79	34	.60	2.98	33	.58	2.89	
Gravy.....	.27	1.93	74	.20	1.43	52	.14	1.00	55	.12	.89	52	.11	.84	63	.13	.79	
Chocolate pudding.....	.98	6.29	176	1.72	11.07	202	1.98	12.71	80	.22	1.54	88	.24	1.70	44	1.72	.89	
Tomato soup.....	.13	.15	161	.21	.24	97	.13	.15	181	.24	.27	168	.22	.25	214	2.10	13.46	
Coffee.....	.03	.03	200	.06	.06	200	.06	.06	200	.06	.06	200	.06	.06	200	.06	.06	
Ice tea.....	.02	.02	400	.08	.08	600	.12	.12	600	.06	.06	400	.08	.08	400	.08	.08	
Total.....				11.00	106.85		13.91	113.79		7.25	75.33		10.07	116.95		14.51	154.96	
<i>Aug. 22, 1910.</i>																		
Bread.....	1.79	1.29	166	2.97	2.14	285	5.10	3.68	248	4.44	3.20	229	4.10	2.95	236	4.22	3.04	
Butter.....	.14	91.13	102	.14	92.95	92	.13	83.84	52	.07	47.39	117	.16	106.62	89	.12	81.11	
Do.....	.48	3.61	106	.60	4.51	121	.60	4.51	125	.60	4.51	97	.60	4.51	55	.60	4.51	
Sugar.....	.35	17.98	120	.42	21.58	120	.42	21.58	120	.42	21.58	120	.42	21.58	120	.42	21.58	
Milk.....	.35	17.98	120	.42	21.58	120	.42	21.58	120	.42	21.58	120	.42	21.58	120	.42	21.58	
Cream.....	.35	17.98	120	.42	21.58	120	.42	21.58	120	.42	21.58	120	.42	21.58	120	.42	21.58	
Meat, cold boiled ham.....	3.58	22.03	34	1.22	7.49	31	1.11	6.83	24	.86	5.29	19	.68	4.19	36	1.29	7.93	
Do.....	2.90	30.39	35	1.02	10.64	36	1.04	10.94	28	.81	8.51	21	.61	6.38	34	.99	10.33	
Potatoes, baked.....	.31	.31	92	.29	.29	128	.40	.40	101	.34	.34	98	.30	.30	172	.53	.53	
Potatoes, hashed brown.....	.34	6.02	94	.32	5.66	98	.33	5.90	101	.34	6.08	90	.31	5.42	163	.55	9.81	
Total.....				11.00	106.85		13.91	113.79		7.25	75.33		10.07	116.95		14.51	154.96	

	1.56	9.20	1.61	9.48	100	1.56	9.20	67	1.05	6.16	102	1.59	9.28	110	1.72	10.12	113	1.76	10.40
French omelet.....																			
Current jelly.....	1.06		1.04		61	.04		62	.04		77	.05		49	.03		68	.04	
Corn flakes.....	1.18		.19		19	.22		18	.21		16	.19		18	.21		21	.16	
Sliced bananas.....	1.11		.11		89	.12					85	.12		84	.12		93	.13	
Crackers.....	1.77	8.77	.28	1.40										17	.30	1.49	8	.14	.70
Beets.....	1.14				67	.09		74	.10		77	.11		82	.11		64	.09	
Gravy.....	.27	1.93	.08	.60	36	.10	.69	35	.09	.68	41	.11	.79	36	.10	.69	37	.10	.71
Celery cream.....	.31	1.84	.30	1.77	218	.68	4.01	208	3.83	3.83	192	.61	3.53	117	.41	2.15	229	.71	4.21
Stewed peaches.....	.16		.36		282	.37		241	.39		225	.36		258	.41		246	.39	
Cold slaw.....	.22		.07		232									34	.07				
Coffee.....	.03		.06		200			200	.06					200	.06				
Ice tea.....	.02		.08		400	.08					400	.08		400	.08		400	.08	
Total.....			10.16	158.22		12.39	151.18		10.12	107.23		10.40	165.35		12.33	174.85		9.79	133.48
<i>Aug. 23, 1910.</i>																			
Bread.....	1.62	1.35			206	3.34	2.78	108	2.72	2.27	157	2.54	2.12		.15	.12	71	1.15	.96
Butter.....	.14	84.97	.13	76.47	65	.09	55.23	35	.05	29.74	118	.17	100.26	126	.18	107.06	83	.12	70.53
Sugar.....					169			29			71			51			65		
Milk, boiled.....	.51	3.40	.64	4.25	125	.64	4.25	125	.64	4.25	125	.64	4.25	125	.64	4.25	125	.64	4.25
Cream.....	.42	17.39	.50	20.87	120	.50	20.87	120	.50	20.87	120	.50	20.87	120	.50	20.87	120	.50	20.87
Meat, roast pork.....	5.95	19.53	.26	5.08	24	1.43	4.69	18	1.07	3.52				24	1.43	4.69	29	1.73	5.96
Meat, roast loin of pork.....	7.49	25.43	.20	5.03	19	1.42	4.77	14	1.05	3.52				20	1.50	5.03	21	1.57	5.23
Potatoes, boiled sweet.....	.20		.20		106	.21		97	.19		154	.31		125	.25		106	.21	
Potatoes, fried, sweet.....	.28	2.88	.25	2.56	104	.29	3.00	110	.31	3.17	100	.28	2.88	132	.37	3.80	119	.33	3.43
Wheat cakes.....	1.44	7.53	1.56	8.13	98	1.41	7.38	88	1.27	6.63	97	1.40	7.30	170	2.45	12.80	63	.91	4.74
Fruit sirup.....	.08		.04		47	.04		58	.05		52	.04		53	.04		34	.03	
Oranges.....	.17		.19		84	.14					97	.16		109	.19		56		
Toast.....	1.86	1.80	.80	.77	50	.93	.90	43	.80	.77	44	.82	.79	52	.97	.94	56	1.04	1.01
Crackers.....	1.85	9.44						15	.28	1.42	16	.30	1.51				8	.15	.76
Cake.....	.83	16.43	.71	13.97	80	.66	13.14	40	.33	6.57	38	.32	6.24	73	.61	11.99	59	.49	9.69
Baked apples.....	.06		.08		145	.09		129	.08		203	.12		228	.14		113	.07	
Gravy.....	.31	9.62	.25	7.89	93	.29	8.95	105	.33	10.10	99	.31	9.52	35	.11	3.37	100	.31	9.62
Stewed cabbage.....	.28	1.41	.67	.94	132	.24	1.86	51	.09	.72				137	.25	1.93			
Chicken soup.....	.42				208	.58	.87	226	.63	.95	214	.60	.90	200	.06		208	.58	.87
Coffee.....	.03		.08		200			200	.06					200	.06		200	.06	
Ice tea.....	.02		.08		600	.12					400	.08		400	.08		400	.08	
Total.....			10.10	147.16		12.40	128.69		10.45	94.50		8.59	156.64		9.92	176.85		9.97	137.67
<i>Aug. 24, 1910.</i>																			
Bread.....	1.76	1.33			245	3.78	2.86	174	3.06	2.31	165	2.90	2.19		1.67	1.26	100	1.76	1.33
Butter.....	.14	84.97	.11	63.73	68	.10	57.78	37	.05	31.44	101	.14	85.82	123	.17	104.51	84	.12	71.37
Sugar.....					122			91			74			63			68		
Milk, boiled.....	.49	3.11	.61	3.89	125	.61	3.89	125	.61	3.89	125	.61	3.89	125	.61	3.89	125	.61	
Cream.....	.36	17.63	.43	20.44	120	.43	20.44	120	.43	20.44	120	.43	20.44	120	.43	20.44	120	.43	20.44
Meat, roast leg of mutton.....	5.28	12.75	.28	3.57	27	1.43	3.44	18	.95	2.30				34	1.80	4.34	32	1.60	4.08
Do.....	4.34	10.38	.30	3.11	34	1.48	3.53				23	1.00	2.39	30	1.69	4.05	37	1.61	3.84
Potatoes, baked.....	.33		.21		182	.60					149	.49		175	.58				

Aug. 26, 1910.

Bread.....	1.02	1.33	1.07	3.78	2.62	2.02	3.88	2.09	2.58	4.95	3.43	2.09	4.01	2.78	2.54	4.88	3.38	134	2.57	1.78
Butter.....	.13	86.00	125	.08	55.90	73	.06	62.78	46	.06	39.56	92	.12	79.12	90	.12	77.40	80	.10	88.80
Sugar.....			125			22			23			38			65			40		
Milk.....	.48	3.16	125	.60	3.95	525	2.52	16.59	525	2.62	16.59	125	.60	3.95	125	.60	3.95	125	.60	3.95
Cream.....	.39	12.07	120	.47	14.48	120	.47	14.48	80	.31	9.66	120	.40	14.48	120	.47	14.48	80	.31	9.66
Baked trout.....	3.35	5.71	56	1.88	3.20	157	3.26	8.96	86	2.88	4.91	93	3.12	5.31	96	3.22	5.48	57	1.91	3.25
Meat, hash.....	3.38	10.62	46	1.55	4.89	40	1.35	4.25	27	.91	2.87	23	.58	2.44	24	.81	2.55	42	1.42	4.46
Potatoes, salad.....	.28		100	.53		216	.60		168	.47		208	.58		222	.62		117	.33	
Scrambled eggs.....	1.37	6.45	102	1.40	6.58	93	1.27	6.00	103	1.41	6.64	97	1.33	6.26	104	1.42	6.71	109	1.49	7.03
Baked apple sauce.....			230	.09		253	.10		192	.08		251	.13		216	.10		146	.06	
Rice flakes.....	1.08		16	.17		14	.15		170	.41		13	.14		15	.16		16	.17	
Cantaloupes.....	.24		135	.32		222	.53		170	.41		180	.43		231	.55		156	.37	
Radishes.....	.16		22	.04		30	.05		220	.26	.62	22	.04		18	.03		198	.24	.55
Purée of vegetable.....	.12	.28	184	.22	.52	208	.25	.58	43	.04	.03	36	.04	.54	89	.11	.25	27	.03	
Celery.....	.10		34	.03		40	.04		200	.06					37	.06		200	.06	
Coffee.....	.63		600	.18											200					
Total.....				11.34	92.14		16.56	116.33		14.50	84.28		11.99	114.88		13.19	114.20		9.66	99.48

Aug. 27, 1910.

Bread.....	1.78	1.37	162	2.88	2.22	227	4.04	3.11	194	3.40	2.62	164	2.92	2.25	262	4.06	3.59	173	3.08	2.37
Butter.....	.13	86.00	90	.12	77.40	100	.13	86.00	53	.07	45.58	131	.17	112.66	119	.15	102.34	100	.13	86.00
Sugar.....			134			32			25			33			41			59		
Milk.....	.48	3.11	125	.60	3.89	325	1.56	10.11	325	1.56	10.11	125	.60	3.89	125	.60	3.89	120	.49	21.59
Cream.....	.41	17.99	120	.40	21.59	120	.49	21.59	120	.49	21.59	120	.40	21.59	120	.49	21.59	120	.49	21.59
Meat, Spanish hash.....	2.54	7.57	39	.99	2.95	47	1.19	3.56	45	1.14	3.41	38	.97	2.88	51	1.30	3.86	43	1.09	3.26
Meat, pork chops.....	5.22	19.27	28	1.46	5.40	20	1.04	5.40	20	1.04	3.85	18	.94	3.47	28	1.46	5.40	32	1.67	6.17
Potatoes, baked.....	.41		92	.38		109	.45					104	.43		148	.61		107	.44	
Do.....	.45		101			91	.41		101			101	.45		133	.60		75	.34	
Wheat cakes.....	1.46	8.61	101	1.47	8.70	103	1.50	8.87	101	1.47	8.70	125	.83	10.76	108	1.58	9.30	90	1.31	7.75
Curant jelly.....	.05		52	.03		50	.03		57	.03		45	.02		56	.03		40	.02	
Puffed rice.....	1.12		10	.11		16	.18		12	.13		10	.11		12	.13		96		
Glazed bananas.....	.18		22	.04		90	.16		92	.17		96	.17		89	.16		115	.20	
Beets.....	.17					106	.18		101	.17		102	.17		117	.20		118	.50	
Cream gravy.....	.42	5.33	97	.41	5.17	95	.40	5.06	109	.46	5.81	112	.47	5.97	172	.72	9.17	235	.49	6.29
Vegetable soup.....	.21	.26	228	.48	.59	355	.75	.92	258	.54	.67	220	.46	.57	206	.43	.54	31	.25	4.69
Cake.....	.62	15.13	27	.22	4.09	32	.26	4.84	32	.26	4.84	35	.28	5.30	34	.27	5.14	82	.02	.07
Curant tapoca.....	.03	.09	80	.02	.07	75	.02	.07	200	.06	.06	90	.02	.08	76	.02	.07	200	.06	
Coffee.....			600	.18																
Total.....				9.88	132.07		13.21	149.53		11.01	107.25		10.50	169.42		13.47	164.89		10.26	138.80

Aug. 28, 1910.

Bread.....	1.68	.89	121	2.03	1.08	172	2.89	1.53	127	2.13	1.13	107	2.81	1.49	205	3.44	1.82	139	2.34	1.24
Butter.....	1.47	2.11	94	1.38	1.98	90	1.46	2.09	88	1.29	1.86	97	1.31	1.88	54	.79	1.14	61	.90	1.20
Sugar.....	.13	85.31	92	.12	78.49	87	.11	74.22	59	.08	50.33	97	.13	82.75	129	.17	110.05	85	.11	72.51
Do.....			167			53			23			48			45			57		

Daily food chart—Continued.

Date and kind of food.	Nitrogen.	Ether extract.	Subject No. 1 (C. H. S.).			Subject No. 2 (H. W. A.).			Subject No. 3 (J. F. J.).			Subject No. 4 (W. S. G.).			Subject No. 5 (E. J. C.).			Subject No. 6 (P. L. N.).		
			Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.	Amount of food.	Nitrogen.	Ether extract.
<i>Aug. 23, 1910—Con.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
Milk.....	0.52	3.52	125	0.65	4.40	525	2.73	18.48	455	2.37	16.02	125	0.65	4.40	125	0.65	4.40	125	0.65	4.40
Cream.....	.43	18.84	120	.52	22.61	120	.52	22.61	120	.52	22.61	120	.52	22.61	120	.52	22.61	120	.52	22.61
Meat, roast beef.....	4.51	13.23	41	1.85	5.42	38	1.71	5.03	120	.....	.....	36	1.62	4.76	38	1.71	5.03	36	1.62	4.76
Do.....	4.56	12.17	32	1.46	3.89	35	1.60	4.26	.....	.....	.....	20	.91	2.43	12	.55	1.46	36	1.64	4.38
Potatoes, mashed.....	.35	4.11	126	.44	5.18	140	.49	5.75	127	.44	5.22	96	.34	3.95	198	.69	8.14	117	.41	4.81
Potatoes, hashed brown.....	.41	8.30	73	.30	6.06	86	.35	7.14	90	.37	7.47	103	.42	8.55	106	.43	8.80	103	.42	8.55
Cream omelet.....	1.79	15.42	73	1.31	11.26	88	1.58	13.57	67	1.20	10.33	75	1.34	11.57	112	2.00	17.27	76	1.36	11.72
Peaches.....	.06	.....	127	.08	.....	151	.09	.....	113	.07	.....	165	.10	.....	119	.07	.....	.....	.....	.....
Rice flakes.....	1.15	.....	14	.14	.....	16	.18	.....	13	.15	.....	17	.20	.....	15	.17	.....	15	.17	.....
Gravy.....	.36	20.59	42	.15	8.65	44	.16	9.06	41	.15	8.44	46	.17	9.47	47	.17	9.68	51	.18	10.50
Siring beans.....	.17	4.83	.....	.....	.....	60	.12	3.33	63	.11	3.04	64	.11	3.00	71	.12	3.43	69	.12	3.33
Chocolate frappé.....	1.06	3.54	126	1.34	4.46	120	1.32	4.57	77	.82	2.73	75	.80	2.66	143	1.52	3.75	140	1.48	4.06
Vegetable soup.....	.15	.....	247	.37	7.79	369	.55	1.18	299	.39	.83	223	.33	.71	233	.35	.75	232	.35	.74
Cake.....	.60	15.13	39	.31	5.90	63	.34	6.51	.....	.....	.....	38	.30	5.75	39	.31	5.90	46	.37	6.96
Beets.....	.17	.....	60	.10	.....	52	.09	.....	22	.04	.....	48	.08	.....	62	.11	.....	46	.10	.....
Coffee.....	.03	.....	600	.18	.....	.....	.....	.....	200	.06	.....	.....	.....	.....	200	.06	.....	200	.06	.....
Total.....	.....	.....	.....	12.73	160.17	.....	16.34	179.33	.....	10.19	130.01	.....	10.52	161.31	.....	13.74	205.27	.....	12.89	163.03

No extended comments on the food chart are necessary, as the full data for each day are given and these speak for themselves. With very few exceptions everything consumed was analyzed each day, which necessitated a very large number of nitrogen and fat determinations. In the case of butter, which was purchased in jars of 5 or 10 pounds, one analysis for each lot was sufficient. The figures in the charts show the extent of this duplication of results. As the largest part of the nitrogen of the daily diet usually comes from bread, a determination was made on the bread purchased for each day. An average value for a 10-day period might be used here, however, with substantially the same degree of accuracy for the period, since the nitrogen and fat values are used only for period comparisons. In the case of certain breakfast foods, bought in packages, a nitrogen determination for each lot was sufficient. Finally, in the case of tea and coffee, enough samples were analyzed to give a reliable average for the period. The nitrogen content of both beverages is low, but it becomes somewhat important because of the volume ingested.

For most of the subjects it is true here, as in the other investigations, that the protein consumption is highest in the earlier days of the tests. This is probably in part due to the improved appetite following the change from the restaurant or student boarding house to our squad table, where greater care was doubtless taken in the selection and preparation of the food. The change in the nitrogen intake is naturally much more marked than in the fat or carbohydrate. A consideration of the nitrogen values shows a very considerable variation from man to man, which is perhaps more marked in the later periods than at the start. In no case, however, can the protein intake be considered high. It rarely reaches 90 grams a day, and the average is much below this. Later, in a study of nitrogen intake and output for each period, the possible relation of nitrogen variation to copper ingestion will be pointed out.

While these food tables are somewhat voluminous, it is deemed best to give them in complete detail in order to show exactly the diet conditions.

QUANTITATIVE URINE AND FECES CHART.

In the next pages the detailed results of the quantitative urine and feces analyses are given, and at another place a discussion of these results will be found. The tables of quantitative examinations will be followed by the presentation of the results of the systematic qualitative analyses.

SUBJECT No. 1 (C. H. S.)—PERIOD 1.

Date.		Urine.											
		Volume.	Specific gravity.	Nitrogen.						Sulphur.			
				Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total	Inorganic.	Neutral.	Ethereal.
May		c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
	1	1,820	1.018	11.78	9.71	0.654	0.504	0.187	0.082	0.853	0.657	0.158	0.038
	2	1,280	1.023	13.30	10.81	.687	.600	.205	.124	.897	.680	.141	.076
	3	1,110	1.023	12.34	10.27	.714	.638	.198	.092	.847	.624	.161	.062
	4	920	1.027	12.20	10.22	.711	.515	.225	.092	.782	.575	.150	.057
	5	890	1.029	11.56	9.49	.642	.573	.183	.101	.742	.546	.141	.055
	6	1,780	1.014	11.14	9.17	.701	.468	.198	.103	.764	.543	.168	.053
	7	1,190	1.018	10.15	8.29	.733	.461	.172	.103	.733	.552	.134	.047
	8	1,840	1.016	11.30	9.33	.807	.504	.203	.116	.811	.604	.151	.056
	9	1,330	1.019	10.86	8.73	.812	.529	.150	.122	.755	.573	.142	.040
	10	1,000	1.027	10.48	8.67	.696	.473	.177	.124	.700	.518	.136	.046
Total..		13,160	.....	115.11	94.69	7.157	5.265	1.898	1.059	7.884	5.872	1.482	.530
Mean..		1,316	1.021	11.51	9.47	.716	.527	.190	.106	.788	.587	.148	.053

SUBJECT No. 1 (C. H. S.)—PERIOD 2.

May	11	1,090	1.026	9.92	7.89	0.707	0.547	0.170	0.115	0.733	0.548	0.149	0.036
	12	1,100	1.026	10.41	8.60	.674	.405	.205	.125	.651	.456	.142	.053
	13	1,280	1.019	9.59	7.71	.662	.493	.162	.125	.640	.477	.123	.040
	14	1,260	1.019	8.84	6.98	.652	.477	.161	.113	.609	.457	.114	.038
	15	1,200	1.024	10.55	8.52	.717	.502	.214	.121	.724	.528	.129	.067
	16	1,150	1.023	10.01	7.97	.682	.526	.166	.111	.662	.479	.134	.049
	17	1,320	1.018	9.99	8.02	.652	.538	.159	.106	.680	.492	.127	.061
	18	780	1.027	8.60	6.53	.668	.464	.172	.065	.653	.487	.127	.039
	19	1,140	1.022	9.37	7.45	.768	.459	.186	.095	.645	.439	.149	.057
	20	1,100	1.021	9.40	7.65	.712	.452	.145	.063	.611	.452	.120	.039
Total..		11,420	-----	96.68	77.62	6.894	4.863	1.740	1.039	6.608	4.815	1.314	.479
Mean..		1,142	1.023	9.67	7.76	.689	.486	.174	.104	.661	.482	.131	.048

SUBJECT No. 1 (C. H. S.)—PERIOD 3.

May	21	1,450	1.016	9.31	7.45	0.641	0.562	0.162	0.087	0.597	0.418	0.132	0.047
	22	1,760	1.015	9.69	7.72	.690	.500	.192	.072	.639	.446	.137	.056
	23	860	1.027	9.41	7.67	.628	.439	.184	.072	.673	.495	.138	.040
	24	1,330	1.021	11.27	9.41	.633	.547	.200	.073	.699	.512	.142	.045
	25	1,400	1.017	7.37	6.04	.733	.332	.136	.073	.473	.336	.109	.028
	26	1,160	1.026	11.46	9.00	.842	.732	.219	.117	.806	.593	.154	.059
	27	1,210	1.022	10.32	8.41	.701	.535	.173	.109	.643	.485	.104	.054
	28	1,000	1.020	8.68	6.95	.641	.502	.155	.086	.625	.459	.124	.042
	29	1,500	1.019	11.42	9.52	.654	.468	.217	.091	.740	.522	.152	.066
	30	1,170	1.024	9.98	7.82	.695	.526	.181	.105	.671	.477	.145	.049
Total..		12,840	-----	98.91	79.99	6.858	5.143	1.819	.885	6.566	4.743	1.337	.486
Mean..		1,284	1.021	9.89	8.00	.686	.514	.182	.089	.657	.474	.134	.049

SUBJECT No. 1 (C. H. S.)—PERIOD 4.

May	31	1,240	1.021	10.37	8.54	0.629	0.569	0.177	0.078	0.688	0.515	0.125	0.044
June	1	900	1.028	10.76	8.96	.641	.520	.190	.098	.764	.555	.140	.066
	2	1,500	1.017	9.96	8.17	.634	.468	.170	.112	.644	.445	.142	.047
	3	1,120	1.021	9.30	7.51	.602	.484	.166	.107	.609	.426	.140	.042
	4	1,020	1.024	9.19	7.34	.640	.403	.181	.109	.637	.449	.141	.047
	5	1,660	1.018	10.69	8.53	.685	.477	.195	.113	.673	.481	.148	.044
	6	1,220	1.019	9.06	7.09	.609	.452	.159	.116	.634	.460	.127	.047
	7	1,350	1.019	9.53	7.56	.593	.461	.153	.115	.663	.464	.140	.059
	8	1,440	1.019	10.38	8.41	.634	.456	.138	.113	.735	.534	.168	.033
	9	1,320	1.020	9.58	7.76	.594	.432	.172	.120	.613	.432	.139	.042
Total..		12,800	-----	98.82	79.87	6.261	4.782	1.781	1.081	6.660	4.764	1.410	.486
Mean..		1,280	1.021	9.88	7.99	.626	.478	.178	.108	.666	.476	.141	.049

and feces analyses.

SUBJECT No. 1 (C. H. S.)—PERIOD 1.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol.=100).	Weight.		Water.	Nitrogen.	Ether extract.	
				Molst.	Dry				
Gms.	Gms.	Gms.		Gms.	Gms.	Per ct.	Gms.	Gms.	
2.24	17.42	1.73	20	Total for period.....	827	218.49	.....	43.09
2.39	10.06	2.33	25	Mean for day.....	83	21.85	73.58	4.31	
2.45	9.47	2.66	15	BALANCES FOR PERIOD.					
2.39	10.99	1.82	10	Nitrogen in—	Ether extract in—				
2.26	10.64	2.19	10	Food, grams.....	125.18	Food, grams.....		1,149.65	
2.28	16.84	1.66	5	Urine, grams.....	115.11	Feces, grams.....		43.09	
1.66	14.15	1.53	10	Feces, grams.....	13.23			+1,106.56	
2.42	15.55	1.45	10		128.34				
2.09	12.86	1.81	20						
2.12	13.45	1.22	10						
22.30	131.43	18.40	.....					
2.23	13.14	1.84	14						
				—3.16					
				Nitrogen utilization, 89.43 per cent; fat utilization, 96.25 per cent.					

SUBJECT No. 1 (C. H. S.)—PERIOD 5.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
	<i>c. c.</i>		<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>
June 10	1,100	1.019	8.10	6.33	0.603	0.461	0.150	0.108	0.614	0.446	0.133	0.035
11	1,170	1.023	9.08	7.46	.608	.394	.175	.089	.646	.491	.110	.045
12	1,390	1.019	10.14	8.07	.698	.479	.197	.103	.674	.484	.134	.056
13	760	1.032	8.88	7.01	.685	.417	.192	.125	.575	.389	.140	.046
14	980	1.024	8.77	6.84	.675	.479	.164	.115	.612	.420	.155	.037
15	1,050	1.022	7.52	5.89	.669	.448	.161	.115	.574	.391	.130	.053
16	1,090	1.023	8.08	6.45	.711	.394	.170	.100	.580	.413	.125	.042
17	1,000	1.022	8.67	6.80	.674	.479	.164	.113	.677	.492	.148	.037
18	730	1.032	8.64	6.95	.604	.396	.173	.127	.653	.462	.160	.031
19	950	1.025	9.29	7.42	.693	.495	.175	.134	.655	.462	.147	.046
Total..	10,220	.....	87.17	69.22	6.620	4.442	1.721	1.129	6.260	4.450	1.382	.428
Mean..	1,022	1.024	8.72	6.92	.662	.444	.172	.113	.626	.445	.138	.043

SUBJECT No. 1 (C. H. S.)—PERIOD 6.

June 20	860	1.028	9.85	7.73	0.662	0.538	0.206	0.139	0.673	0.445	0.164	0.064
21	1,470	1.018	9.43	7.30	.669	.569	.181	.110	.588	.421	.125	.042
22	1,360	1.018	8.03	6.16	.659	.431	.173	.114	.677	.497	.150	.030
23	980	1.027	8.85	7.04	.722	.379	.200	.083	.717	.499	.176	.042
24	1,380	1.019	9.23	7.43	.677	.484	.180	.102	.665	.465	.164	.036
25	1,980	1.013	8.63	6.77	.648	.493	.162	.086	.607	.435	.132	.040
26	1,100	1.023	9.72	7.82	.753	.542	.205	.080	.684	.498	.156	.030
27	1,700	1.014	9.86	8.00	.704	.602	.195	.128	.618	.435	.137	.046
28	1,470	1.018	9.20	7.41	.644	.444	.162	.107	.624	.454	.144	.026
29	980	1.024	9.44	7.67	.685	.479	.195	.130	.714	.522	.144	.048
Total..	13,280	.....	92.24	73.33	6.823	4.861	1.859	1.079	6.567	4.671	1.492	.404
Mean..	1,328	1.020	9.22	7.33	.682	.486	.186	.108	.657	.467	.149	.040

SUBJECT No. 1 (C. H. S.)—PERIOD 7.

June 30	910	1.027	9.26	7.45	0.706	0.448	0.183	0.116	0.663	0.492	0.140	0.031
July 1	760	1.032	10.09	8.03	.677	.470	.211	.137	.781	.591	.139	.051
2	680	1.033	9.92	8.13	.647	.484	.192	.138	.815	.579	.186	.050
3	750	1.032	10.41	8.52	.556	.531	.191	.133	.742	.541	.156	.045
4	1,050	1.019	10.51	8.65	.558	.600	.187	.108	.657	.457	.146	.054
5	1,200	1.020	8.56	6.72	.517	.562	.177	.107	.606	.440	.133	.033
6	1,370	1.017	7.91	6.11	.560	.484	.170	.116	.618	.434	.147	.037
7	1,080	1.022	8.11	6.42	.569	.450	.183	.094	.579	.430	.119	.030
8	960	1.024	8.01	6.29	.559	.430	.184	.092	.586	.413	.145	.028
9	770	1.032	8.68	6.84	.614	.421	.195	.085	.665	.466	.145	.054
Total..	9,530	.....	91.46	73.16	5.963	4.880	1.873	1.126	6.712	4.843	1.456	.413
Mean..	9.53	1.026	9.15	7.32	.596	.488	.187	.113	.671	.484	.146	.041

SUBJECT No. 1 (C. H. S.)—PERIOD 8.

July 10	1,090	1.022	8.78	7.06	0.589	0.428	0.170	0.117	0.619	0.441	0.128	0.050
11	670	1.026	8.18	6.49	.527	.437	.183	.095	.597	.429	.123	.045
12	1,000	1.026	9.43	7.43	.583	.394	.197	.124	.613	.391	.167	.055
13	1,240	1.019	8.58	6.81	.560	.479	.158	.132	.619	.440	.129	.050
14	960	1.024	9.05	7.26	.579	.441	.180	.122	.678	.480	.152	.046
15	1,250	1.018	8.19	6.46	.606	.484	.175	.104	.610	.423	.139	.048
16	1,220	1.019	8.40	6.65	.574	.403	.217	.086	.546	.359	.137	.050
17	1,380	1.019	9.79	7.97	.572	.553	.263	.105	.684	.466	.172	.046
18	1,020	1.027	9.17	7.22	.608	.455	.228	.138	.631	.429	.160	.042
19	1,400	1.020	9.89	7.92	.551	.497	.266	.126	.620	.421	.143	.056
Total..	11,230	.....	89.46	71.27	5.749	4.571	2.037	1.149	6.217	4.279	1.450	.488
Mean..	1,123	1.022	8.95	7.13	.575	.457	.204	.115	.622	.428	.145	.049

feces analyses—Continued.

SUBJECT No. 1 (C. H. S.)—PERIOD 5.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol.=100).	Weight.		Water.	Nitrogen.	Ether extract.	
Gms.	Gms.	Gms.		Moist.	Dry.				
1.70	10.64	1.63	10	Total for period.....	870	226.03	.....	14.70	45.15
1.75	10.76	1.49	5	Mean for day.....	87	22.60	74.02	1.47	4.52
1.99	10.64	1.42	20	BALANCES FOR PERIOD.					
2.28	10.76	1.68	20	Nitrogen in—		Ether extract in—			
1.96	11.34	1.88	Trace.	Food, grams..... 105.90		Food, grams..... 1,183.12			
1.75	12.39	1.77	10	Urine, grams..... 87.17		Feces, grams..... 45.15			
1.78	13.56	1.56	5	Feces, grams..... 14.70					
2.10	11.46	1.99	30	101.87					
2.04	12.74	1.69	10						
2.28	13.56	1.59	Trace.	+4.03					
19.63	117.85	16.70	.....	Nitrogen utilization, 86.12 per cent; fat utilization, 96.18 per cent.					
1.96	11.79	1.67	11						

SUBJECT No. 1 (C. H. S.)—PERIOD 6.

2.40	12.86	2.39	Trace.	Total for period.....	812	188.95	.....	11.37	38.25
1.82	16.37	1.98	Trace.	Mean for day.....	81	18.90	76.73	1.14	3.87
1.68	17.18	1.38	10	BALANCES FOR PERIOD.					
1.91	15.08	1.16	10						
2.09	17.54	1.89	10	Nitrogen in—					
1.87	18.94	1.81	10						
2.16	15.20	2.15	10	Food, grams..... 116.74		Ether extract in—			
1.88	20.69	2.30	Trace.	Urine, grams..... 92.24		Food, grams.....		1,258.44	
1.68	17.07	1.38	10	Feces, grams..... 11.37		Feces, grams.....		38.25	
2.38	15.08	2.19	10	103.61		+1,220.19			
19.87	166.01	18.63	.....	+13.13					
1.99	16.60	1.86	7	Nitrogen utilization, 90.26 per cent; fat utilization, 96.96 per cent.					

SUBJECT No. 1 (C. H. S.)—PERIOD 7.

1.72	14.62	1.66	10	Total for period.....	889	196.29	.....	12.36	33.69
2.48	12.51	2.00	10	Mean for day.....	89	19.63	77.92	1.24	3.37
2.06	11.69	1.99	10	BALANCES FOR PERIOD.					
1.81	10.99	1.61	10	Nitrogen in—		Ether extract in—			
2.18	12.86	2.14	10	Food, grams..... 116.39		Food, grams.....		1,351.41	
1.92	13.56	2.05	10	Urine, grams..... 91.46		Feces, grams.....		33.69	
1.68	14.38	1.44	10	Feces, grams..... 12.36					
1.74	15.08	1.36	Trace.	103.82					
1.55	14.03	1.32	10						
1.70	14.73	1.76	10						
18.84	134.45	17.33	.....	+12.57					
1.88	13.45	1.73	9	Nitrogen utilization, 89.38 per cent; fat utilization, 97.51 per cent.					

SUBJECT No. 1 (C. H. S.)—PERIOD 8.

2.08	13.33	1.70	Trace.	Total for period.....	743	188.50	.....	11.89	37.74
2.09	10.52	1.83	Trace.	Mean for day.....	74	18.85	74.63	1.19	3.77
2.03	14.73	1.36	10	BALANCES FOR PERIOD.					
1.85	14.50	1.76	20	Nitrogen in—		Ether extract in—			
1.89	12.86	1.40	20	Food, grams..... 122.43		Food, grams.....		1,324.98	
1.87	15.08	1.78	10	Urine, grams..... 89.46		Feces, grams.....		37.74	
1.55	14.50	.98	10	Feces, grams..... 11.89					
2.50	14.73	1.88	5	101.35					
2.31	16.13	1.80	Trace.						
2.42	15.78	1.81	10					+1,287.24	
20.59	142.16	16.30	.....	+21.08					
2.06	14.22	1.63	9	Nitrogen utilization, 90.20 per cent; fat utilization, 97.15 per cent.					

SUBJECT No. 1 (C. H. S.)—PERIOD 9.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
July 20	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
20	1,000	1.023	9.40	7.64	0.568	0.495	0.270	0.096	0.646	0.460	0.145	0.041
21	960	1.022	8.72	7.14	.629	.430	.184	.094	.626	.431	.139	.056
22	890	1.024	9.09	7.30	.606	.428	.198	.100	.690	.482	.155	.053
23	610	1.032	6.98	5.39	.621	.408	.170	.091	.623	.442	.149	.032
24	660	1.032	9.23	7.50	.607	.408	.250	.056	.796	.593	.162	.041
25	840	1.028	9.48	7.54	.606	.506	.175	.114	.702	.506	.153	.043
26	530	1.032	8.08	6.41	.598	.479	.181	.057	.662	.464	.154	.044
27	750	1.029	9.08	7.25	.576	.452	.202	.082	.680	.473	.156	.051
28	1,000	1.025	10.18	8.32	.558	.549	.245	.069	.810	.576	.191	.043
29	720	1.029	8.89	7.01	.554	.569	.231	.045	.728	.509	.160	.059
Total..	7,960	.....	89.13	71.50	5.923	4.724	2.106	.804	6.963	4.936	1.564	.463
Mean..	796	1.028	8.91	7.15	.592	.472	.211	.080	.696	.494	.156	.046

SUBJECT No. 1 (C. H. S.)—PERIOD 10.

July 30	770	1.030	11.32	9.46	0.602	0.609	0.256	0.057	0.835	0.618	0.157	0.060
31	990	1.028	10.65	8.79	.561	.605	.217	.071	.713	.498	.153	.062
Aug. 1	640	1.028	8.16	6.24	.540	.580	.159	.117	.733	.531	.170	.032
2	890	1.022	9.12	7.47	.517	.549	.142	.115	.634	.457	.115	.062
3	820	1.032	9.20	7.27	.574	.497	.197	.108	.730	.519	.179	.032
4	930	1.024	9.22	7.51	.544	.515	.158	.094	.664	.452	.158	.054
5	970	1.021	8.39	6.79	.528	.423	.155	.118	.612	.403	.160	.049
6	1,340	1.019	9.54	7.73	.590	.459	.191	.098	.696	.488	.166	.042
7	1,290	1.018	9.43	7.68	.587	.540	.189	.095	.668	.459	.182	.027
8	780	1.028	8.32	6.60	.593	.522	.175	.094	.633	.469	.130	.034
Total..	9,420	.....	93.35	75.54	5.636	5.299	1.839	.967	6.918	4.894	1.570	.454
Mean..	942	1.025	9.34	7.55	.564	.530	.184	.097	.692	.489	.157	.045

SUBJECT No. 1 (C. H. S.)—PERIOD 11.

Aug. 9	890	1.026	9.67	7.86	0.560	0.464	0.180	0.139	0.679	0.491	0.140	0.048
10	1,010	1.024	8.44	6.65	.554	.493	.148	.120	.631	.446	.128	.057
11	1,660	1.013	8.66	6.93	.568	.529	.169	.062	.676	.491	.137	.048
12	680	1.029	6.31	4.71	.559	.426	.186	.043	.636	.457	.151	.028
13	690	1.033	8.10	6.50	.585	.484	.211	.038	.744	.553	.164	.027
14	850	1.026	9.31	7.52	.587	.479	.203	.063	.759	.555	.153	.051
15	780	1.030	8.64	6.84	.601	.508	.183	.072	.808	.579	.174	.055
16	970	1.023	8.86	7.03	.565	.535	.177	.087	.746	.539	.176	.031
17	1,140	1.023	10.72	8.83	.592	.643	.231	.063	.842	.619	.157	.066
18	1,420	1.019	9.68	7.82	.577	.542	.219	.043	.825	.612	.171	.042
Total..	10,090	.....	88.39	70.69	5.748	5.103	1.907	.730	7.346	5.342	1.551	.453
Mean..	1,009	1.025	8.84	7.07	.575	.510	.191	.073	.735	.534	.155	.045

SUBJECT No. 1 (C. H. S.)—PERIOD 12.

Aug. 19	1,170	1.019	8.32	6.74	0.530	0.437	0.167	0.067	0.626	0.439	0.134	0.053
20	820	1.025	7.43	5.96	.577	.372	.108	.142	.622	.421	.138	.063
21	700	1.024	8.01	6.39	.587	.423	.142	.107	.759	.573	.117	.069
22	640	1.029	8.57	6.82	.577	.417	.173	.113	.709	.521	.129	.059
23	720	1.029	7.91	6.00	.572	.356	.142	.110	.601	.393	.144	.064
24	650	1.028	6.69	5.16	.551	.383	.123	.096	.546	.370	.132	.044
25	1,180	1.023	9.54	7.71	.594	.421	.183	.112	.630	.457	.133	.040
26	1,760	1.016	9.48	7.55	.544	.502	.159	.144	.664	.479	.123	.062
27	1,350	1.016	8.75	7.00	.581	.457	.161	.143	.609	.428	.139	.042
28	1,100	1.022	9.12	7.34	.607	.479	.172	.164	.647	.477	.133	.037
Total..	10,090	.....	83.82	66.67	5.720	4.247	1.530	1.198	6.413	4.558	1.322	.533
Mean..	1,009	1.023	8.38	6.67	.572	.425	.153	.120	.641	.456	.132	.053

feces analyses—Continued.

SUBJECT No. 1 (C. H. S.)—PERIOD 9.

Urine—Continued.				Feces.					
Phosphoric acid as P ₂ O ₅ .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol. = 100).	Weight.		Water.	Nitrogen.	Ether extract.	
Gms.	Gms.	Gms.		Moist.	Dry.				
2.26	13.10	1.95	20	Total for period.....	823	209.12	.....	12.51	38.98
1.63	10.99	1.66	10	Mean for day.....	82	20.91	74.59	1.25	3.87
2.05	9.70	1.57	Trace.	BALANCES FOR PERIOD.					
1.64	8.30	1.46	10	Nitrogen in—	Ether extract in—				
1.80	9.70	1.40	20	Food, grams.....	102.32	Food, grams..... 1,228.74			
1.87	11.93	1.84	10	Urine, grams.....	89.13	Feces, grams..... 38.68			
2.16	7.25	1.91	10	Feces, grams.....	12.51				
1.85	10.76	1.48	10		101.64				
2.35	10.76	2.06	30		+0.68				
1.91	12.04	2.38	20	Nitrogen utilization, 87.77 per cent; fat utilization, 96.85 per cent.					
19.52	104.53	17.71	.....					
1.95	10.45	1.77	14						

SUBJECT No. 1 (C. H. S.)—PERIOD 10.

2.46	11.69	2.50	20	Total for period.....	768	184.63	.....	13.36	40.93
2.42	12.16	2.42	20	Mean for day.....	77	18.46	75.96	1.34	4.09
1.86	10.52	2.00	40	BALANCES FOR PERIOD.					
1.71	10.76	1.87	40	Nitrogen in—		Ether extract in—			
1.71	14.38	1.30	30	Food, grams..... 112.27		Food, grams..... 1,316.14			
1.72	12.39	1.51	20	Urine, grams..... 93.35		Feces, grams..... 40.93			
1.74	11.69	1.25	20	Feces, grams..... 13.36					
2.27	14.50	1.22	40	..... 106.71					
1.86	14.03	1.54	40						
1.91	11.69	2.14	20			+1,275.21			
19.66	123.81	17.75	.....	+5.56					
1.97	12.38	1.78	29	Nitrogen utilization, 88.10 per cent; fat utilization, 96.89 per cent.					

SUBJECT No. 1 (C. H. S.)—PERIOD 11.

1.76	12.74	1.28	30	Total for period.....	908	200.30	.....	11.17	35.23
1.52	14.03	1.37	10	Mean for day.....	91	20.03	77.94	1.12	3.52
1.91	12.28	1.62	Trace.						
1.97	9.47	1.22	10	BALANCES FOR PERIOD.					
2.10	10.29	1.71	10	Nitrogen in—		Ether extract in—			
1.91	12.28	1.30	20	Food, grams..... 111.92		Food, grams..... 1,353.03			
2.02	12.86	1.58	50	Urine, grams..... 88.39		Feces, grams..... 35.23			
2.06	12.86	1.25	30	Feces, grams..... 11.17					
2.09	14.03	1.67	40	99.56					
1.98	16.49	1.38	60			+1,317.80			
19.32	127.33	14.38	.....	+12.36					
1.93	12.73	1.44	26	Nitrogen utilization, 90.02 per cent; fat utilization, 97.39 per cent.					

SUBJECT No. 1 (C. H. S.)—PERIOD 12.

1.84	12.39	1.22	40	Total for period.....	896	182.52	.....	11.38	28.04
1.05	11.46	.38	40	Mean for day.....	90	18.25	79.63	1.14	2.80
1.58	7.95	1.25	30	BALANCES FOR PERIOD.					
1.89	8.42	1.31	20	Nitrogen in—		Ether extract in—			
2.05	9.35	1.18	10	Food, grams..... 103.09		Food, grams..... 1,255.50			
1.48	9.35	1.30	20	Urine, grams..... 83.82		Feces, grams..... 28.04			
2.06	14.15	.88	20	Feces, grams..... 11.38					
2.31	14.97	1.58	10	95.20					
1.67	11.93	1.14	20	+ 7.89					
2.13	11.93	1.48	20	Nitrogen utilization, 88.97 per cent; fat utilization, 97.77 per cent.					
18.06	111.90	11.72	.....					
1.81	11.19	1.17	23						

SUBJECT No. 2A (H. W. A.)—PERIOD 1.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
	<i>c. c.</i>		<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>
May 1	1,100	1.023	11.14	9.25	0.659	0.569	0.148	0.062	0.874	0.670	0.153	0.051
2	1,530	1.019	12.58	10.30	.659	.724	.175	.044	.897	.689	.143	.065
3	1,590	1.017	11.70	9.67	.672	.699	.158	.037	.856	.641	.142	.073
4	880	1.021	9.72	8.04	.614	.535	.126	.034	.678	.517	.119	.042
5	1,600	1.022	13.51	11.09	.825	.690	.219	.048	.933	.692	.168	.073
6	1,180	1.024	11.27	9.48	.672	.491	.183	.042	.800	.590	.157	.053
7	1,670	1.015	12.16	10.19	.726	.598	.180	.038	.895	.686	.147	.062
8	1,310	1.022	12.09	10.28	.786	.468	.187	.058	.843	.639	.139	.065
9	1,310	1.019	11.39	9.43	.772	.560	.145	.064	.900	.698	.156	.046
10	1,630	1.017	10.68	9.01	.703	.500	.177	.047	.714	.528	.140	.046
Total..	13,800	-----	116.24	96.74	7.088	5.834	1.698	.474	8.390	6.350	1.464	.576
Mean..	1,380	1.020	11.62	9.67	.709	.583	.170	.047	.839	.635	.146	.058

SUBJECT No. 2A (H. W. A.)—PERIOD 2.

May 11	1,200	1.022	10.32	8.51	0.709	0.524	0.166	0.055	0.770	0.557	0.151	0.062
12	1,240	1.023	9.98	8.10	.691	.488	.173	.035	.731	.529	.145	.057
13	1,290	1.022	10.48	8.59	.683	.524	.155	.052	.773	.581	.136	.056
14	1,510	1.020	11.04	9.00	.726	.580	.178	.023	.779	.595	.139	.045
15	1,500	1.020	9.58	7.86	.656	.441	.162	.028	.658	.473	.134	.051
16	890	1.025	9.33	7.50	.711	.538	.133	.052	.812	.612	.143	.057
17	1,400	1.018	10.97	9.02	.672	.569	.156	.047	.758	.563	.147	.048
18	1,050	1.025	9.95	8.16	.706	.468	.172	.044	.724	.560	.131	.033
19	900	1.027	9.36	7.48	.759	.488	.169	.032	.761	.548	.151	.062
20	1,010	1.027	9.86	8.01	.704	.578	.167	.051	.736	.544	.122	.070
Total..	11,990	-----	100.87	82.23	7.017	5.198	1.631	.419	7.502	5.562	1.399	.541
Mean..	1,199	1.023	10.09	8.22	.702	.520	.163	.042	.750	.556	.140	.054

SUBJECT No. 2A (H. W. A.)—PERIOD 3.

May 21	1,690	1.016	9.83	8.07	0.619	0.482	0.173	0.014	0.617	0.453	0.120	0.044
22	1,650	1.017	9.82	7.88	.768	.576	.180	.027	.675	.497	.121	.057
23	1,420	1.019	10.04	8.19	.687	.495	.181	.051	.743	.564	.131	.048
24	1,130	1.024	10.06	8.37	.711	.571	.158	.032	.784	.582	.139	.063
25	1,130	1.024	10.24	8.45	.730	.520	.178	.032	.771	.575	.127	.069
26	930	1.028	9.71	7.92	.656	.571	.169	.030	.736	.558	.117	.061
27	1,380	1.022	12.09	10.17	.695	.620	.191	.041	.801	.632	.103	.066
28	1,110	1.024	10.42	8.58	.709	.609	.181	.031	.825	.641	.122	.062
29	1,240	1.025	11.47	9.58	.742	.578	.198	.038	.769	.562	.141	.066
30	1,300	1.022	10.03	8.17	.691	.558	.161	.031	.756	.573	.130	.053
Total..	12,980	-----	103.71	85.38	7.008	5.580	1.770	.327	7.477	5.637	1.251	.589
Mean..	1,298	1.022	10.37	8.54	.701	.558	.177	.033	.748	.564	.125	.059

SUBJECT No. 2A (H. W. A.)—PERIOD 4.

May 31	1,100	1.023	9.62	7.78	0.722	0.571	0.164	0.037	0.744	0.576	0.132	0.036
June 1	1,000	1.024	9.25	7.68	.628	.452	.156	.024	.619	.456	.116	.047
2	1,310	1.021	11.25	9.51	.641	.477	.183	.034	.717	.548	.125	.044
3	1,240	1.021	9.73	8.16	.614	.464	.155	.055	.725	.546	.144	.035
4	1,140	1.025	11.30	9.41	.675	.466	.173	.042	.812	.622	.133	.057
5	1,340	1.020	12.76	10.49	.704	.609	.180	.046	.764	.573	.144	.047
6	2,000	1.015	11.39	9.36	.648	.488	.183	.040	.758	.573	.134	.051
7	1,440	1.020	10.84	8.91	.662	.486	.161	.057	.774	.576	.131	.067
8	760	1.028	10.18	8.24	.674	.567	.150	.048	.911	.721	.145	.045
9	1,150	1.026	12.45	10.49	.709	.564	.191	.040	.800	.621	.122	.057
Total..	12,480	-----	108.77	90.03	6.677	5.144	1.696	.423	7.624	5.812	1.326	.486
Mean..	1,248	1.022	10.88	9.00	.668	.514	.170	.042	.762	.581	.133	.049

feces analyses—Continued.

SUBJECT No. 2A (H. W. A.)—PERIOD 1.

Urine—Continued.				Feces.					
Phosphoric acid as P ₂ O ₅ .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol.=100).		Weight.				
					Molst.	Dry.	Water.	Nitrogen.	Ether extract.
Gms.	Gms.	Gms.			Gms.	Gms.	Per ct.	Gms.	Gms.
2.06	9.35	1.37	40	Total for period.....	727	220.28	.....	13.52	44.27
2.58	11.69	2.12	70	Mean for day.....	73	22.03	69.70	1.35	4.43
2.49	12.51	1.92	60	BALANCES FOR PERIOD.					
2.04	8.18	1.88	50	Nitrogen in—	Ether extract in—				
3.18	16.49	2.40	50	Food, grams.....	142.90	Food, grams..... 1,333.10			
2.70	16.13	1.52	60	Urine, grams....	116.24	Feces, grams..... 44.27			
2.91	15.43	2.05	70	Feces, grams....	13.52				
2.91	15.90	1.58	70		129.76				
2.56	10.29	2.03	70						
2.40	14.85	1.32	50						
25.83	130.82	18.19	.....					
2.58	13.08	1.82	59		+13.14				
				Nitrogen utilization, 90.54 per cent; fat utilization, 96.68 per cent.					

SUBJECT No. 2A (H. W. A.)—PERIOD 2.

2.50	12.63	1.58	70	Total for period.....	651	180.78	.....	12.24	30.60
2.26	15.32	1.44	60	Mean for day.....	65	18.08	72.23	1.22	3.06
2.32	13.91	1.52	50	BALANCES FOR PERIOD.					
2.64	16.49	1.79	70	Nitrogen in—		Ether extract in—			
2.10	16.95	1.05	60	Food, grams.....	131.16	Food, grams.....	1,499.92		
1.88	11.11	1.47	50	Urine, grams....	100.87	Feces, grams.....	30.60		
2.26	13.21	1.57	70	Feces, grams....	12.24				
2.68	13.56	1.65	60		113.11		+1,469.32		
2.34	11.58	1.45	70						
2.40	16.84	1.84	70						
23.38	141.60	15.36	.....		+18.05				
2.34	14.16	1.54	63	Nitrogen utilization, 90.67 per cent; fat utilization, 97.96 per cent.					

SUBJECT No. 2A (H. W. A.)—PERIOD 3.

2.48	15.78	1.29	60	Total for period.....	611	183.30	.....	11.73	41.18
2.62	16.25	1.76	60	Mean for day.....	61	18.33	70.00	1.17	4.12
2.58	16.60	1.71	60	BALANCES FOR PERIOD.					
2.28	14.15	1.79	70	Nitrogen in—			Ether extract in—		
2.45	15.32	1.60	50	Food, grams.....	127.28		Food, grams.....	1.530.38	
2.42	13.68	1.77	50	Urine, grams.....	103.71		Feces, grams.....	41.18	
2.65	14.97	1.84	60	Feces, grams.....	11.73				
2.36	14.15	1.97	60						
2.44	16.02	1.98	60						
2.30	16.95	1.38	50		115.44			+1,489.20	
24.58	153.87	17.09	.....		+11.84				
2.46	15.39	1.71	58	Nitrogen utilization, 90.78 per cent; fat utilization, 97.31 per cent.					

SUBJECT No. 2A (H. W. A.)—PERIOD 4.

2.42	14.26	1.92	60	Total for period.....	693	204.44	.....	13.65	52.04
2.10	12.63	1.49	60	Mean for day.....	69	20.44	70.50	1.37	5.20
2.26	14.97	1.35	60	BALANCES FOR PERIOD.					
2.04	13.45	1.36	60	Nitrogen in—		Ether extract in—			
2.57	15.78	1.51	60	Food, grams.....		139.08	Food, grams.....		1,506.79
2.66	15.90	2.00	60	Urine, grams.....		108.77	Feces, grams.....		52.61
2.72	16.72	1.68	70	Feces, grams.....		13.65			
2.38	14.15	1.55	70			122.42			
1.98	8.89	1.97	60						
2.76	14.62	2.11	70						
23.89	141.37	16.94	.....			+16.66			
2.39	14.14	1.69	63	Nitrogen utilization, 90.18 per cent; fat utilization, 96.54 per cent.					

SUBJECT No. 2A (H. W. A.)—PERIOD 5.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
June 10	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
10	1,340	1.024	12.57	10.01	0.644	0.569	0.205	0.038	0.887	0.707	0.125	0.055
11	1,840	1.017	12.86	11.15	.662	.533	.203	.037	.782	.634	.086	.062
12	1,120	1.024	10.06	8.43	.647	.432	.161	.021	.708	.556	.087	.065
13	1,020	1.023	9.79	8.05	.683	.477	.155	.050	.657	.478	.123	.056
14	890	1.025	9.06	7.38	.651	.450	.145	.041	.679	.503	.130	.046
15	870	1.027	9.86	8.26	.706	.435	.164	.055	.786	.606	.110	.070
16	700	1.030	9.67	7.82	.717	.529	.148	.047	.789	.637	.091	.061
17	860	1.027	12.09	10.02	.696	.614	.195	.055	.851	.685	.108	.058
18	910	1.025	10.44	8.69	.654	.482	.155	.068	.713	.555	.112	.046
19	810	1.028	9.14	7.42	.640	.517	.142	.046	.659	.512	.093	.054
Total..	10,360	.....	105.54	87.83	6.700	5.038	1.673	.458	7.511	5.873	1.065	.573
Mean..	1,036	1.025	10.55	8.78	.670	.504	.167	.046	.751	.587	.107	.057

SUBJECT No. 2A (H. W. A.)—PERIOD 6.

June 20	1,100	1.020	9.08	7.54	0.586	0.419	0.142	0.047	0.620	0.456	0.124	0.040
21	1,640	1.019	11.22	9.35	.730	.484	.198	.052	.855	.679	.110	.066
22	820	1.028	10.24	8.37	.707	.564	.155	.054	.863	.701	.118	.044
23	870	1.030	11.22	9.38	.778	.464	.194	.046	.870	.696	.124	.050
24	900	1.028	11.71	9.93	.701	.538	.167	.047	.703	.590	.122	.051
25	940	1.028	10.29	8.52	.744	.502	.158	.050	.823	.670	.105	.048
26	880	1.028	9.65	7.94	.707	.502	.161	.047	.623	.479	.101	.043
27	970	1.023	9.93	8.21	.753	.459	.137	.095	.678	.509	.105	.064
28	1,130	1.022	9.03	7.27	.687	.470	.130	.083	.710	.537	.124	.049
29	840	1.028	9.39	7.73	.721	.479	.170	.067	.758	.592	.106	.060
Total..	10,090	.....	101.76	84.24	7.114	48.81	1.612	.588	7.563	5.909	1.139	.515
Mean..	1,009	1.025	10.18	8.42	.711	.488	.161	.059	.756	.591	.114	.052

SUBJECT No. 2A (H. W. A.)—PERIOD 7.

June 30	800	1.033	10.41	8.50	0.748	0.576	0.186	0.050	0.775	0.609	0.117	0.049
July 1	850	1.029	11.15	9.14	.737	.558	.187	.057	.826	.654	.104	.068
2	710	1.029	9.34	7.82	.574	.444	.141	.068	.706	.521	.135	.050
3	1,050	1.024	11.11	9.56	.608	.495	.167	.076	.714	.537	.129	.048
4	890	1.025	10.98	9.39	.593	.542	.164	.054	.788	.578	.145	.065
5	930	1.026	10.88	9.25	.543	.488	.139	.064	.785	.612	.133	.040
6	900	1.026	10.21	8.55	.608	.457	.144	.060	.721	.539	.131	.051
7	620	1.030	9.12	7.23	.597	.614	.123	.054	.819	.643	.120	.056
8	640	1.033	9.96	8.28	.609	.553	.141	.054	.765	.595	.125	.045
9	700	1.033	10.13	8.18	.625	.589	.139	.060	.741	.578	.109	.054
Total..	8,090	.....	103.29	85.90	6.247	5.316	1.531	.597	7.640	5.866	1.248	.526
Mean..	809	1.029	10.33	8.59	.625	.532	.153	.060	.764	.587	.125	.053

SUBJECT No. 2B (W. D. F.)—PERIOD 9.

July 20	890	1.032	16.23	14.05	0.666	0.777	0.211	0.080	1.181	0.928	0.164	0.089
21	940	1.026	14.11	12.17	.703	.654	.189	.072	1.002	.754	.158	.090
22	990	1.029	13.74	11.74	.651	.573	.223	.046	1.035	.817	.146	.072
23	1,040	1.025	11.85	10.12	.639	.423	.206	.045	.820	.623	.156	.041
24	820	1.030	10.66	9.00	.625	.412	.189	.042	.857	.663	.148	.046
25	750	1.029	10.69	8.74	.656	.542	.159	.066	.778	.578	.155	.045
26	650	1.030	9.14	7.30	.630	.502	.162	.055	.745	.513	.175	.057
27	1,040	1.024	9.34	7.74	.550	.399	.164	.052	.656	.460	.148	.048
28	960	1.026	10.52	8.41	.628	.627	.222	.070	.848	.612	.189	.047
29	970	1.028	9.90	7.97	.634	.556	.233	.032	.790	.575	.156	.059
Total..	9,050	.....	116.18	97.24	6.382	5.465	1.958	.560	8.712	6.523	1.595	.594
Mean..	905	1.028	11.62	9.72	.638	.547	.196	.056	.871	.652	.160	.059

feces analyses—Continued.

SUBJECT No. 2A (H. W. A.)—PERIOD 5.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol.=100).	Weight.		Water.	Nitrogen.	Ether extract.	
				Moist.	Dry.				
<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>		<i>Gms.</i>	<i>Gms.</i>	<i>Per ct.</i>	<i>Gms.</i>	<i>Gms.</i>	
2.75	15.32	1.78	80	Total for period.....	715	208.14	.....	13.80	41.83
2.55	17.30	1.72	80	Mean for day.....	72	20.81	70.89	1.38	4.18
2.45	15.08	1.68	70	BALANCES FOR PERIOD.					
2.30	13.21	1.80	80	Nitrogen in—	Ether extract in—				
2.28	11.58	1.87	70	Food, grams.....	122.73	Food, grams..... 1,329.63			
2.50	10.64	1.80	80	Urine, grams	105.54	Feces, grams..... 41.83			
2.44	7.02	2.11	70	Feces, grams.....	13.80				
2.62	10.52	2.45	70		119.34				
2.22	13.68	1.87	60		+3.39				
2.38	11.34	2.05	80	Nitrogen utilization, 88.76 per cent; fat utilization, 96.85 per cent.					
24.49	125.69	19.13	.....					
2.45	12.57	1.91	74						

SUBJECT No. 2B (W. D. F.)—PERIOD 10.

Date.		Urine.											
		Volume.	Specific gravity.	Nitrogen.						Sulphur.			
				Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
July	30	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
	31	820	1.031	11.16	9.06	0.692	0.663	0.190	0.047	0.810	0.571	0.189	0.050
Aug.	1	760	1.029	9.00	7.42	.589	.562	.166	.042	.637	.421	.157	.059
	2	760	1.030	11.10	8.92	.663	.703	.155	.093	.887	.641	.195	.051
	3	810	1.030	10.18	8.43	.598	.600	.148	.066	.681	.497	.167	.017
	4	790	1.028	9.05	6.96	.655	.553	.139	.075	.751	.507	.184	.060
	5	940	1.026	9.26	7.54	.621	.515	.145	.053	.689	.469	.159	.061
	6	750	1.029	7.98	6.16	.589	.540	.120	.091	.650	.455	.142	.053
	7	1,020	1.029	9.85	7.80	.679	.517	.158	.077	.665	.463	.143	.059
	8	740	1.026	7.49	5.99	.503	.435	.114	.052	.506	.356	.126	.024
	8	770	1.026	9.79	7.78	.632	.580	.144	.071	.688	.499	.159	.030
Total..		8,160	.....	94.86	76.06	6.221	5.668	1.479	.667	6.964	4.879	1.621	.464
Mean..		816	1.028	9.49	7.61	.622	.567	.148	.067	.696	.488	.162	.046

SUBJECT No. 2B (W. D. F.)—PERIOD 11.

Aug. 9		790	1.031	10.15	8.05	0.644	0.564	0.148	0.112	0.671	0.488	0.120	0.063
10		1,280	1.023	9.89	8.01	.634	.535	.144	.081	.728	.533	.106	.089
11		2,400	1.011	10.76	8.92	.647	.642	.156	.043	.750	.536	.166	.048
12		2,590	1.011	10.23	8.29	.716	.575	.180	.054	.777	.559	.172	.046
13		1,230	1.028	9.50	7.64	.647	.634	.170	.029	.784	.591	.145	.048
14		1,800	1.018	11.01	9.15	.647	.464	.219	.022	.756	.569	.152	.035
15		1,150	1.022	9.39	7.44	.661	.612	.133	.078	.790	.581	.159	.050
16		1,700	1.022	12.03	10.01	.651	.396	.258	.037	.808	.562	.177	.069
17		1,720	1.017	12.01	9.88	.641	.741	.177	.044	1.029	.811	.155	.063
18		1,630	1.021	9.95	8.19	.649	.450	.206	.038	.741	.552	.153	.036
Total..		16,290	.....	104.92	85.58	6.537	5.613	1.791	.538	7.834	5.782	1.505	.547
Mean..		1,629	1.020	10.49	8.56	.654	.561	.179	.054	.783	.578	.151	.055

SUBJECT No. 2B (W. D. F.)—PERIOD 12.

Aug. 19		1,000	1.028	8.14	6.44	0.624	0.376	0.192	0.041	0.673	0.469	0.154	0.050
20		740	1.032	8.36	6.62	.661	.461	.159	.068	.765	.546	.156	.063
21		800	1.028	10.18	8.57	.614	.381	.156	.074	.777	.591	.137	.049
22		640	1.029	9.00	6.92	.649	.417	.151	.092	.739	.553	.124	.062
23		810	1.029	10.04	8.29	.617	.367	.150	.088	.724	.514	.151	.059
24		760	1.024	6.95	5.70	.472	.251	.151	.067	.496	.337	.125	.034
25		1,240	1.028	12.76	10.46	.861	.609	.267	.065	.980	.730	.192	.058
26		1,300	1.024	12.86	10.78	.645	.517	.209	.058	1.051	.828	.179	.044
27		870	1.033	11.78	9.92	.670	.448	.205	.095	.914	.680	.180	.054
28		1,190	1.024	12.58	10.83	.615	.461	.181	.060	.866	.685	.162	.049
Total..		9,350	.....	102.65	84.57	6.428	4.288	1.821	.708	7.985	5.903	1.560	.522
Mean..		935	1.028	10.27	8.46	.643	.429	.182	.071	.799	.590	.156	.052

SUBJECT No. 3 (J. F. J.)—PERIOD 1.

May 1		1,220	1.018	10.77	9.46	0.486	0.354	0.106	0.098	0.715	0.558	0.105	0.052
2		780	1.034	11.70	9.85	.472	.502	.122	.094	.908	.747	.108	.053
3		1,290	1.021	12.89	10.44	.470	.497	.120	.054	.901	.736	.117	.048
4		960	1.023	11.07	9.52	.455	.497	.106	.052	.764	.609	.109	.046
5		1,190	1.022	10.68	9.09	.434	.488	.101	.076	.734	.577	.103	.054
6		1,400	1.020	10.24	8.85	.431	.396	.141	.064	.773	.602	.125	.046
7		850	1.025	11.07	9.67	.450	.374	.126	.070	.862	.699	.115	.048
8		930	1.025	10.46	9.22	.437	.370	.115	.060	.719	.588	.093	.038
9		1,050	1.024	10.94	9.79	.466	.388	.122	.068	.787	.642	.112	.033
10		1,080	1.023	10.24	8.78	.450	.405	.133	.064	.746	.588	.115	.043
Total..		10,750	.....	110.06	94.67	4.551	4.271	1.192	.700	7.909	6.346	1.102	.461
Mean..		1,075	1.024	11.01	9.47	.455	.427	.119	.070	.791	.635	.110	.046

feces analyses—Continued.

SUBJECT No. 2B (W. D. F.)—PERIOD 10.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Fehling's sol. = 100).		Weight.				
Gms.	Gms.	Gms.			Moist.	Dry.	Water.	Nitrogen.	Ether extract.
2.69	13.78	2.99	20	Total for period.....	1,438	284.44	.....	23.58	57.52
2.33	13.68	2.58	20	Mean for day.....	144	28.44	80.22	2.36	5.75
2.67	12.86	2.82	40	BALANCES FOR PERIOD.					
2.09	13.33	2.00	50	Nitrogen in—		Ether extract in—			
1.67	14.26	1.69	20	Food, grams.....	122.53	Food, grams.....		1,261.90	
1.74	14.62	1.15	40	Urine, grams.....	94.86	Feces, grams.....		57.52	
1.88	13.10	1.81	40	Feces, grams.....	23.58				
1.98	15.32	1.22	60		118.44				+1,204.38
1.55	12.74	1.35	40						
2.27	14.50	2.38	40						
20.87	138.19	19.99	.....		+4.09				
2.09	13.82	2.00	37	Nitrogen utilization, 80.77 per cent; fat utilization, 95.44 per cent.					

SUBJECT No. 2B (W. D. F.)—PERIOD 11.

2.48	11.46	2.02	50	Total for period.....	1,409	288.00	.....	18.60	50.02
2.12	17.54	1.87	50	Mean for day.....	141	28.80	79.56	1.86	5.00
2.48	17.96	1.80	20	BALANCES FOR PERIOD.					
2.28	20.29	1.59	10	Nitrogen in—		Ether extract in—			
1.90	13.10	1.70	20	Food, grams.....	145.69	Food, grams.....		1,505.33	
2.17	21.63	1.19	5	Urine, grams.....	104.92	Feces, grams.....		50.02	
1.99	17.54	2.04	30	Feces, grams.....	18.60				
2.39	27.33	.75	40		123.52				+1,455.31
2.67	20.93	2.68	50						
2.58	25.02	1.55	40						
23.06	193.30	17.19	.....		+22.17				
2.31	19.33	1.72	32	Nitrogen utilization, 87.23 per cent; fat utilization, 96.68 per cent.					

SUBJECT No. 2B (W. D. F.)—PERIOD 12.

2.07	18.71	1.01	30	Total for period.....	1,077	211.63	.....	14.75	43.30
1.83	11.93	1.60	30	Mean for day.....	108	21.16	80.35	1.48	4.33
2.15	11.69	1.38	40	BALANCES FOR PERIOD.					
1.75	9.35	1.64	50	Nitrogen in—		Ether extract in—			
2.19	10.99	1.17	30	Food, grams.....	134.95	Food, grams.....		1,389.14	
1.28	10.52	.20	20	Urine, grams.....	102.65	Feces, grams.....		43.30	
3.35	19.88	2.34	60	Feces, grams.....	14.75				
2.99	19.76	1.82	20		117.40				+1,345.84
2.59	12.86	1.98	30						
2.28	14.73	1.51	40						
22.48	140.42	14.65	.....		+17.55				
2.25	14.04	1.47	35	Nitrogen utilization, 89.07 per cent; fat utilization, 96.88 per cent.					

SUBJECT No. 3 (J. F. J.)—PERIOD 1.

1.83	10.17	1.09	10	Total for period.....	1,008	234.36	.....	15.12	42.64
2.08	8.54	2.14	40	Mean for day.....	101	23.44	76.75	1.51	4.26
2.43	10.76	1.93	40	BALANCES FOR PERIOD.					
2.43	10.76	2.04	30	Nitrogen in—		Ether extract in—			
2.12	13.56	1.69	10	Food, grams.....	136.58	Food, grams.....		954.79	
1.82	15.32	1.29	10	Urine, grams.....	110.06	Feces, grams.....		42.64	
2.18	10.76	1.70	20	Feces, grams.....	15.12				
2.44	10.52	1.60	20		125.18				+912.15
2.34	11.93	1.57	30						
2.04	13.10	1.10	25						
21.71	115.42	16.15	.....		+11.40				
2.17	11.54	1.62	24	Nitrogen utilization, 88.93 per cent; fat utilization, 95.53 per cent.					

SUBJECT No. 3 (J. F. J.)—PERIOD 2.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
	<i>c. c.</i>		<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>
May 11	1,070	1.023	10.59	9.11	0.433	0.430	0.141	0.081	0.751	0.575	0.118	0.058
12	1,190	1.023	10.66	9.20	.402	.417	.128	.068	.699	.524	.110	.065
13	1,290	1.018	10.49	8.94	.404	.475	.112	.072	.750	.593	.091	.066
14	1,420	1.018	9.99	8.32	.408	.479	.120	.069	.671	.542	.091	.038
15	790	1.026	8.89	7.67	.384	.421	.122	.064	.688	.540	.090	.058
16	990	1.026	10.01	8.58	.416	.410	.111	.039	.697	.548	.088	.061
17	1,120	1.022	8.67	7.37	.383	.470	.105	.050	.653	.491	.101	.061
18	1,030	1.021	7.90	6.66	.373	.399	.100	.057	.613	.499	.078	.036
19	890	1.027	8.43	6.94	.476	.408	.130	.060	.644	.481	.096	.067
20	1,060	1.024	9.08	7.80	.413	.412	.123	.046	.667	.522	.101	.044
Total..	10,850	.....	94.71	80.59	4.092	4.321	1.192	.606	6.833	5.315	.964	.554
Mean..	1,085	1.023	9.47	8.06	.409	.432	.119	.061	.683	.532	.096	.055

SUBJECT No. 3 (J. F. J.)—PERIOD 3.

May 21	1,180	1.020	9.40	8.02	0.422	0.392	0.128	0.057	0.701	0.555	0.097	0.049
22	1,100	1.024	10.79	9.37	.438	.423	.148	.068	.769	.608	.112	.049
23	1,200	1.021	10.28	8.91	.382	.461	.123	.063	.744	.601	.087	.056
24	1,210	1.021	10.20	8.84	.404	.466	.133	.065	.725	.576	.115	.034
25	1,340	1.021	9.89	8.58	.386	.421	.145	.060	.668	.522	.099	.047
26	1,270	1.020	9.14	7.61	.443	.517	.130	.065	.788	.630	.103	.055
27	720	1.030	9.81	8.45	.392	.497	.125	.083	.758	.646	.066	.046
28	1,230	1.021	10.82	9.43	.445	.435	.151	.064	.739	.588	.094	.057
29	770	1.028	7.94	6.96	.349	.338	.105	.059	.598	.457	.090	.051
30	1,070	1.025	10.58	9.02	.425	.446	.141	.060	.795	.653	.105	.037
Total..	11,090	.....	98.85	85.19	4.086	4.396	1.329	.644	7.285	5.836	.968	.481
Mean..	1,109	1.023	9.89	8.52	.409	.440	.133	.064	.729	.584	.097	.048

SUBJECT No. 3 (J. F. J.)—PERIOD 4.

May 31	700	1.029	9.62	8.01	0.400	0.547	0.112	0.053	0.718	0.589	0.081	0.048
June 1	1,040	1.023	9.79	8.36	.377	.479	.136	.044	.631	.490	.088	.053
2	1,140	1.024	9.13	7.82	.361	.423	.130	.070	.622	.488	.092	.042
3	1,380	1.019	10.09	8.74	.346	.457	.144	.062	.726	.582	.094	.050
4	1,240	1.023	10.94	9.46	.414	.385	.148	.067	.740	.571	.103	.066
5	1,120	1.024	10.23	8.73	.401	.329	.125	.066	.680	.535	.084	.061
6	960	1.027	10.15	8.60	.359	.363	.128	.083	.684	.530	.087	.067
7	1,160	1.023	11.07	9.61	.385	.381	.145	.073	.730	.560	.089	.081
8	1,180	1.024	11.08	9.59	.378	.370	.144	.066	.754	.611	.094	.049
9	1,080	1.025	10.38	8.95	.381	.383	.147	.074	.778	.626	.101	.051
Total..	11,000	.....	102.48	87.87	3.802	4.117	1.359	.658	7.063	5.582	.913	.568
Mean..	1,100	1.024	10.25	8.79	.380	.412	.136	.066	.706	.558	.091	.057

SUBJECT No. 3 (J. F. J.)—PERIOD 5.

June 10	1,270	1.022	12.40	10.77	0.377	0.448	0.177	0.059	0.862	0.701	0.100	0.061
11	790	1.028	9.83	8.57	.371	.437	.137	.066	.841	.696	.073	.072
12	940	1.026	10.68	9.30	.422	.345	.161	.068	.688	.560	.070	.058
13	660	1.030	9.06	7.73	.428	.435	.145	.069	.710	.570	.099	.041
14	860	1.028	10.13	8.65	.401	.468	.136	.068	.724	.580	.096	.048
15	830	1.027	9.51	8.11	.391	.448	.130	.079	.717	.575	.075	.067
16	750	1.031	9.16	7.70	.397	.405	.126	.088	.615	.481	.076	.058
17	780	1.028	8.84	7.39	.397	.367	.111	.103	.662	.519	.082	.061
18	900	1.028	9.50	8.11	.375	.417	.130	.094	.767	.621	.093	.053
19	840	1.029	8.89	7.61	.356	.388	.111	.098	.675	.541	.097	.037
Total..	8,620	.....	98.00	83.94	3.915	4.158	1.364	.792	7.261	5.844	.861	.556
Mean..	862	1.028	9.80	8.39	.392	.416	.136	.079	.726	.584	.086	.056

feces analyses—Continued.

SUBJECT No. 3 (J. F. J.)—PERIOD 2.

Urine—Continued.				Feces.					
Phosphoric acid as H_2O_4 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol. = 100).	Weight.		Water.	Nitrogen.	Ether extract.	
				Moist.	Dry.				
Gms.	Gms.	Gms.		Gms.	Gms.	Per ct.	Gms.	Gms.	
2.06	11.81	1.12	40	Total for period.....	904	221.21	15.28	33.18	
1.89	11.81	1.00	40	Mean for day.....	90	22.12	1.53	3.32	
1.80	12.39	1.30	30	BALANCES FOR PERIOD.					
1.66	12.28	1.06	50	Nitrogen in—		Ether extract in—			
1.70	10.06	1.27	40	Food, grams.....		Food, grams.....		1,004.42	
1.81	12.74	1.16	30	Urine, grams.....		Feces, grams.....		33.18	
1.64	12.04	1.05	50	Feces, grams.....					
1.92	11.69	1.14	30						
2.02	14.03	1.31	30						
1.97	13.91	.98	20						
18.47	122.76	11.39	.....					
1.85	12.28	1.14	36						

SUBJECT No. 3 (J. F. J.)—PERIOD 3.

Phosphoric acid as H_2O_4 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol. = 100).	Feces.					
				Weight.		Water.	Nitrogen.	Ether extract.	
				Moist.	Dry.				
Gms.	Gms.	Gms.		Gms.	Gms.	Per ct.	Gms.	Gms.	
2.20	11.93	1.58	20	Total for period.....	905	201.54	13.94	35.75	
2.58	10.99	1.36	20	Mean for day.....	91	20.15	1.39	3.58	
2.18	12.63	1.35	30	BALANCES FOR PERIOD.					
2.06	14.15	1.48	15	Nitrogen in—		Ether extract in—			
1.82	14.97	1.12	10	Food, grams.....		Food, grams.....		995.90	
1.47	11.69	1.19	20	Urine, grams.....		Feces, grams.....		35.75	
2.15	9.24	2.16	20	Feces, grams.....					
2.16	14.03	1.64	20						
1.69	10.41	1.22	20						
2.20	14.03	1.78	Trace.						
20.51	124.07	14.88	.....					
2.05	12.41	1.49	18						

SUBJECT No. 3 (J. F. J.)—PERIOD 4.

Phosphoric acid as H_2O_4 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol. = 100).	Feces.					
				Weight.		Water.	Nitrogen.	Ether extract.	
				Moist.	Dry.				
Gms.	Gms.	Gms.		Gms.	Gms.	Per ct.	Gms.	Gms.	
2.13	8.42	2.11	30	Total for period.....	881	225.62	14.71	46.08	
2.03	11.81	1.57	20	Mean for day.....	88	22.56	1.47	4.61	
2.01	13.08	1.15	20	BALANCES FOR PERIOD.					
2.03	15.08	1.48	20	Nitrogen in—		Ether extract in—			
2.32	14.97	1.40	30	Food, grams.....		Food, grams.....		1,057.94	
2.22	12.86	1.47	50	Urine, grams.....		Feces, grams.....		46.08	
1.90	9.94	1.26	30	Feces, grams.....					
2.25	12.63	1.45	30						
2.33	12.63	1.62	20						
2.11	14.85	1.62	10						
21.33	126.87	15.13	.....					
2.13	12.69	1.51	26						

SUBJECT No. 3 (J. F. J.)—PERIOD 5.

Phosphoric acid as H_2O_4 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol. = 100).	Feces.					
				Weight.		Water.	Nitrogen.	Ether extract.	
				Moist.	Dry.				
Gms.	Gms.	Gms.		Gms.	Gms.	Per ct.	Gms.	Gms.	
2.23	12.98	1.67	20	Total for period.....	884	217.73	14.41	35.09	
1.96	10.41	1.93	30	Mean for day.....	88	21.77	1.44	3.57	
2.40	12.16	1.89	20	BALANCES FOR PERIOD.					
2.14	8.42	1.80	30	Nitrogen in—		Ether extract in—			
2.14	12.86	2.02	20	Food, grams.....		Food, grams.....		1,042.68	
2.13	12.86	1.95	30	Urine, grams.....		Feces, grams.....		35.09	
1.92	12.16	1.62	20	Feces, grams.....					
1.97	11.81	1.17	30						
2.07	15.90	1.85	40						
2.20	13.56	1.32	30						
21.16	123.12	17.22	.....					
2.12	12.31	1.72	27						

SUBJECT No. 3 (J. F. A.)—PERIOD 6.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
June 20	850	1.027	9.13	7.72	0.402	0.417	0.145	0.050	0.654	0.486	0.118	0.050
21	890	1.026	9.37	8.03	.377	.354	.115	.083	.640	.512	.075	.053
22	1,040	1.026	10.74	9.39	.422	.370	.144	.082	.779	.639	.106	.034
23	870	1.030	9.67	8.28	.424	.374	.122	.078	.751	.586	.115	.050
24	1,030	1.027	11.42	9.95	.376	.347	.147	.084	.799	.637	.121	.041
25	760	1.031	9.79	8.34	.415	.497	.112	.093	.752	.622	.087	.043
26	-----	-----	9.79	-----	-----	-----	-----	-----	-----	-----	-----	-----
27	1,070	1.019	8.84	7.46	.436	.446	.108	.100	.622	.479	.104	.039
28	840	1.029	9.26	7.68	.409	.426	.111	.106	.776	.629	.101	.046
29	810	1.029	9.87	8.48	.415	.466	.142	.090	.703	.548	.093	.062
Total..	8,160	-----	97.88	75.33	3.676	3.697	1.146	.766	6.476	5.138	.920	.418
Mean..	907	1.027	9.79	8.37	.408	.411	.127	.085	.720	.571	.102	.046

SUBJECT No. 3 (J. F. J.)—PERIOD 7.

June 30	910	1.028	9.39	7.88	0.427	0.482	0.117	0.103	0.657	0.502	0.091	0.064
July 1	790	1.027	8.67	7.26	.395	.450	.123	.106	.724	.601	.081	.042
2	760	1.030	10.17	8.76	.387	.444	.145	.123	.809	.634	.113	.062
3	970	1.027	11.01	9.71	.369	.412	.142	.104	.739	.568	.121	.050
4	1,050	1.020	10.83	9.56	.339	.473	.131	.100	.733	.555	.111	.067
5	810	1.025	9.00	7.65	.359	.401	.112	.090	.670	.530	.112	.028
6	800	1.028	8.67	7.20	.371	.417	.112	.120	.695	.544	.102	.049
7	900	1.026	9.12	7.73	.358	.370	.126	.075	.669	.542	.096	.031
8	690	1.028	8.18	6.88	.357	.412	.109	.084	.568	.446	.086	.036
9	680	1.027	7.23	5.81	.377	.394	.092	.103	.519	.387	.084	.048
Total..	8,360	-----	92.27	78.44	3.739	4.255	1.209	1.008	6.783	5.309	.997	.477
Mean..	836	1.027	9.23	7.84	.374	.426	.121	.101	.678	.531	.100	.048

SUBJECT No. 3 (J. F. J.)—PERIOD 8.

July 10	930	1.026	8.11	6.87	0.364	0.338	0.112	0.084	0.633	0.500	0.087	0.046
11	830	1.027	9.05	7.68	.340	.396	.123	.062	.702	.564	.083	.055
12	870	1.028	9.72	8.30	.381	.367	.128	.093	.721	.557	.112	.052
13	1,100	1.021	10.04	8.62	.333	.441	.105	.099	.651	.525	.081	.045
14	870	1.029	8.86	7.55	.352	.358	.083	.111	.671	.511	.113	.047
15	1,200	1.020	10.35	9.07	.356	.401	.137	.071	.731	.565	.122	.044
16	930	1.025	9.29	7.90	.356	.379	.231	.076	.669	.507	.110	.052
17	1,960	1.026	10.00	8.66	.318	.459	.202	.064	.693	.517	.114	.062
18	990	1.024	10.23	8.80	.362	.370	.137	.092	.703	.549	.111	.043
19	1,140	1.024	11.70	10.01	.342	.444	.280	.071	.771	.599	.116	.056
Total..	10,820	-----	97.35	83.46	3.504	3.953	1.538	.823	6.945	5.394	1.049	.502
Mean..	1,082	1.025	9.74	8.35	.350	.395	.154	.082	.695	.539	.105	.050

SUBJECT No. 3 (J. F. J.)—PERIOD 9.

July 20	840	1.027	10.45	9.04	0.352	0.473	0.220	0.074	0.750	0.596	0.096	0.058
21	760	1.028	9.40	8.16	.380	.338	.134	.092	.762	.591	.104	.067
22	730	1.027	9.65	8.32	.362	.408	.119	.082	.745	.602	.106	.037
23	700	1.028	8.84	7.57	.328	.399	.134	.083	.673	.532	.107	.034
24	870	1.030	10.13	8.66	.373	.421	.183	.059	.865	.701	.117	.047
25	600	1.029	8.67	7.30	.346	.419	.092	.119	.655	.507	.096	.052
26	600	1.029	7.45	6.09	.318	.358	.073	.141	.578	.410	.111	.057
27	860	1.024	8.63	7.34	.373	.373	.141	.085	.618	.460	.126	.032
28	750	1.027	7.93	6.49	.323	.383	.134	.086	.693	.511	.125	.057
29	720	1.030	8.72	7.26	.376	.399	.159	.064	.721	.531	.125	.065
Total..	7,430	-----	89.87	76.23	3.531	3.887	1.389	.885	7.060	5.441	1.113	.506
Mean..	743	1.028	8.99	7.62	.353	.389	.139	.089	.706	.544	.111	.051

¹ Bottle broken; mean for 9 figures.

feces analyses—Continued.

SUBJECT No. 3 (J. F. J.)—PERIOD 6.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl .	Total acidity as oxalic acid.	Indican (Feb- ling's sol.=100).	Weight.		Water.	Nitrogen.	Ether extract.	
Gms.	Gms.	Gms.		Moist.	Dry.				
2.10	14.03	1.91	20	Total for period.....	812	168.73	.....	10.23	34.51
2.00	13.91	1.82	60	Mean for day.....	81	16.87	79.22	1.02	3.45
2.31	16.37	1.52	30	BALANCES FOR PERIOD.					
2.20	12.86	1.52	30	Nitrogen in—			Ether extract in—		
2.28	15.90	1.89	20	Food, grams.....	117.65		Food, grams.....	1,010.07	
2.03	12.04	2.42	10	Urine, grams.....	97.88		Feces, grams.....	34.51	
1.58	14.97	1.98	Trace.	Feces, grams.....	10.23				
1.74	13.80	1.38	15		108.11				+975.56
2.17	14.38	2.24	20		+9.54				
18.84	128.26	16.68	.....	Nitrogen utilization, 91.30 per cent; fat utilization, 96.58 per cent.					
2.09	14.25	1.85	23						

SUBJECT No. 3 (J. F. J.)—PERIOD 7.

1.93	15.20	1.88	40	Total for period.....	1,098	241.56	.....	16.25	40.19
1.96	12.39	1.38	40	Mean for day.....	110	24.16	78.00	1.63	4.02
2.22	12.28	1.86	50	BALANCES FOR PERIOD.					
2.28	14.26	1.82	40	Nitrogen in—			Ether extract in—		
2.04	11.93	2.04	30	Food, grams.....	114.27		Food, grams.....	1,087.40	
1.96	10.29	1.45	20	Urine, grams.....	92.27		Feces, grams.....	40.19	
1.86	12.86	1.43	20	Feces, grams.....	16.25				
2.05	13.91	1.51	10		108.52				+1,047.21
2.07	10.05	1.73	20		+5.75				
1.64	11.46	1.43	20	Nitrogen utilization, 85.78 per cent; fat utilization, 96.30 per cent.					
20.01	124.64	16.53	.....					
2.00	12.46	1.65	29						

SUBJECT No. 3 (J. F. J.)—PERIOD 8.

1.99	13.91	1.32	20	Total for period.....		187.40	.....	12.53	42.42
2.04	13.21	1.84	30	Mean for day.....	86	18.74	78.31	1.25	4.24
1.97	12.28	1.47	20	BALANCES FOR PERIOD.					
2.24	13.10	1.68	40	Nitrogen in—			Ether extract in—		
2.06	12.86	1.63	30	Food, grams.....	125.41		Food, grams.....	886.99	
2.06	14.97	1.52	30	Urine, grams.....	97.35		Feces, grams.....	42.42	
1.90	12.16	1.19	40	Feces, grams.....	12.53				
2.09	12.86	1.78	40		109.88				+844.57
2.39	14.26	1.63	10		+15.53				
2.60	15.43	1.69	20	Nitrogen utilization, 90.01 per cent; fat utilization, 95.22 per cent.					
21.34	135.04	15.75	.....					
2.13	13.50	1.58	28						

SUBJECT No. 3 (J. F. J.)—PERIOD 9.

2.70	10.87	2.45	30	Total for period.....	845	200.27	.....	11.91	57.21
2.24	10.52	1.82	30	Mean for day.....	85	20.03	76.30	1.19	5.72
2.16	8.54	1.81	30	BALANCES FOR PERIOD.					
2.00	9.70	1.76	30	Nitrogen in—			Ether extract in—		
2.09	16.37	2.25	30	Food, grams.....	103.70		Food, grams.....	836.21	
1.63	8.77	1.67	50	Urine, grams.....	89.87		Feces, grams.....	57.21	
1.54	9.12	1.38	20	Feces, grams.....	11.91				
1.56	12.98	.91	50		101.78				+779.00
1.80	11.34	1.38	50		+1.92				
2.06	10.87	2.02	50	Nitrogen utilization, 88.52 per cent; fat utilization, 93.16 per cent.					
19.78	109.08	17.45	.....					
1.98	10.91	1.75	37						

SUBJECT No. 3 (J. F. J.)—PERIOD 10.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
July 30	660	1.029	8.44	7.24	0.338	0.388	0.117	0.100	0.602	0.429	0.134	0.039
31	750	1.028	8.11	6.99	.309	.329	.086	.111	.536	.367	.097	.072
Aug. 1	540	1.029	7.38	6.07	.318	.399	.036	.151	.620	.452	.079	.089
2	660	1.029	8.95	7.56	.355	.466	.092	.110	.618	.457	.083	.078
3	650	1.029	7.24	5.82	.344	.376	.036	.155	.534	.390	.115	.029
4	650	1.026	6.87	5.85	.328	.284	.029	.135	.558	.389	.107	.062
5	690	1.024	7.01	5.92	.321	.280	.029	.167	.501	.337	.092	.072
6	920	1.020	7.14	5.91	.317	.347	.036	.143	.458	.329	.072	.057
7	710	1.022	6.13	4.73	.346	.376	.064	.125	.442	.308	.093	.041
8	620	1.027	6.48	5.28	.332	.237	.025	.156	.420	.310	.078	.032
Total..	6,850	.....	73.75	61.37	3.308	3.482	.550	1.353	5.289	3.768	.950	.571
Mean..	685	1.026	7.38	6.14	.331	.348	.055	.135	.529	.377	.095	.057

SUBJECT No. 3 (J. F. J.)—PERIOD 11.

Aug. 9	590	1.029	5.61	4.52	0.337	0.253	0.026	0.159	0.390	0.290	0.073	0.027
10	740	1.026	7.56	6.26	.364	.296	.033	.147	.578	.417	.144	.017
11	890	1.023	8.07	6.91	.336	.403	.058	.091	.541	.395	.086	.060
12	660	1.028	6.73	5.49	.360	.376	.065	.085	.506	.378	.095	.033
13	530	1.030	6.03	4.95	.333	.405	.047	.096	.458	.336	.074	.048
14	740	1.026	7.85	6.48	.352	.419	.094	.084	.514	.391	.088	.035
15	690	1.025	6.62	5.37	.355	.345	.045	.140	.442	.310	.098	.034
16	653	1.030	6.88	5.51	.355	.414	.036	.138	.515	.396	.090	.029
17	900	1.022	7.21	5.89	.340	.421	.070	.103	.619	.470	.086	.063
18	800	1.027	7.07	5.87	.346	.354	.097	.071	.509	.384	.086	.039
Total..	7,193	.....	69.63	57.25	3.478	3.686	.571	1.114	5.072	3.767	.920	.385
Mean..	719	1.027	6.96	5.73	.348	.369	.057	.111	.507	.377	.092	.039

SUBJECT No. 3 (J. F. J.)—PERIOD 12.

Aug. 19	1,330	1.018	7.74	6.56	0.345	0.302	0.123	0.055	0.530	0.381	0.100	0.049
20	950	1.022	6.10	4.94	.333	.305	.053	.117	.522	.376	.089	.057
21	810	1.026	6.51	5.59	.339	.246	.090	.085	.619	.471	.096	.052
22	660	1.029	6.50	5.30	.328	.302	.048	.116	.513	.381	.072	.060
23	710	1.027	6.40	5.20	.370	.242	.058	.123	.578	.425	.105	.048
24	610	1.030	6.34	5.06	.356	.269	.120	.085	.528	.369	.106	.053
25	1,040	1.024	7.83	6.52	.368	.300	.126	.048	.526	.390	.085	.051
26	1,320	1.020	8.24	6.77	.336	.381	.109	.089	.724	.553	.122	.049
27	780	1.027	7.18	6.06	.372	.282	.083	.151	.629	.470	.099	.060
28	960	1.023	8.05	6.84	.343	.311	.083	.111	.650	.492	.107	.051
Total..	9,170	.....	70.89	58.84	3.490	2.940	.893	.980	5.819	4.308	.981	.530
Mean..	917	1.025	7.09	5.88	.349	.294	.089	.098	.582	.431	.098	.053

SUBJECT No. 4 (W. S. G.)—PERIOD 1.

May 1	1,020	1.018	11.30	9.72	0.604	0.408	0.150	0.044	0.870	0.677	0.141	0.052
2	1,660	1.017	11.73	9.87	.596	.620	.145	.025	.865	.675	.136	.054
3	1,400	1.018	10.88	9.17	.624	.526	.155	.029	.766	.587	.136	.043
4	1,070	1.023	10.66	9.05	.600	.473	.164	.024	.784	.610	.127	.047
5	1,550	1.016	9.82	8.06	.604	.520	.137	.045	.699	.515	.125	.059
6	1,470	1.018	9.99	8.30	.651	.468	.151	.034	.736	.551	.135	.050
7	1,980	1.013	9.43	7.93	.601	.388	.137	.026	.713	.556	.113	.044
8	1,220	.025	10.88	9.20	.721	.363	.189	.033	.847	.659	.136	.052
9	830	1.026	9.89	8.15	.648	.520	.141	.034	.735	.585	.115	.035
10	920	1.029	11.32	9.66	.617	.497	.172	.029	.814	.634	.135	.045
Total..	13,120	.....	105.90	89.11	6.266	4.783	1.541	.323	7.829	6.049	1.299	.481
Mean..	1,312	1.020	10.59	8.91	.627	.478	.154	.032	.783	.605	.130	.048

¹ An approximately known amount of the urine of the subject was lost by being mixed with that of No. 4. Calculated values for the whole excretion are given.

SUBJECT No. 3 (J. F. J.)—PERIOD 10.

Urine—Continued.				Feces.					
Phosphoric acid as P ₂ O ₅ .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol.=100).	Weight.		Water.	Nitrogen.	Ether extract.	
				Moist.	Dry.				
<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>		<i>Gms.</i>	<i>Gms.</i>	<i>Per ct.</i>	<i>Gms.</i>	<i>Gms.</i>	
1.71	7.95	1.46	60	Total for period.....	1,112	187.93	.....	13.23	34.69
1.60	7.83	1.37	60	Mean for day.....	111	18.79	83.10	1.32	3.47
1.55	7.60	1.56	70						
1.80	10.64	1.89	60						
1.49	10.76	.97	30						
1.31	8.18	.88	70						
1.58	7.95	.82	70						
1.37	10.76	.88	60						
1.58	8.89	1.50	60						
1.44	8.54	1.01	60						
15.43	89.10	12.34	.....					
1.54	8.91	1.23	60						

BALANCES FOR PERIOD.			
Nitrogen in—		Ether extract in—	
Food, grams.....	76.85	Food, grams.....	596.08
Urine, grams.....	73.75	Feces, grams.....	34.69
Feces, grams.....	13.23		
	86.98		+561.39
	—10.13		
Nitrogen utilization, 82.78 per cent; fat utilization, 94.19 per cent.			

1.40	8.54	0.80	40	Total for period.....	776	156.36	11.48	24.06
1.71	10.64	1.20	50	Mean for day.....	78	15.64	79.85	1.15	2.41
1.89	10.29	1.09	50	BALANCES FOR PERIOD.					
1.61	11.22	1.44	50						
1.46	8.54	1.50	30						
2.08	11.11	2.08	20						
1.63	11.22	1.29	30						
1.94	10.70	1.98	20						
1.42	12.04	1.02	40						
1.80	11.69	1.45	60						
				Nitrogen in—	Ether extract in—				
				Food, grams.....	90.15	Food, grams..... 873.71			
				Urine, grams.....	69.63	Feces, grams..... 24.06			
				Feces, grams.....	11.48				
					81.11				
					+9.04				
16.94	105.99.	13.85	Nitrogen utilization, 87.27 per cent; fat utilization, 97.25 per cent.					
1.69	10.60	1.39	39						

1.77	13.68	0.79	60	Total for period.....	773	189.93	12.75	39.89
1.51	11.93	.42	40	Mean for day.....	77	18.99	75.43	1.28	3.99
1.48	12.51	.87	40						
1.44	9.35	1.30	40						
1.48	11.81	.60	40						
1.38	10.06	.82	30						
1.84	15.55	1.00	30	Nitrogen in—		Ether extract in—			
2.06	15.90	1.10	20	Food, grams.....	100.40	Food, grams.....		965.09	
1.76	11.22	.98	40	Urine, grams.....	70.89	Feces, grams.....		39.89	
1.90	11.93	1.03	20	Feces, grams.....	12.75				
					83.64			+925.20	
16.62	123.94	8.91		+16.76				
1.66	12.39	.89	36	Nitrogen utilization, 87.30 per cent;		fat utilization, 95.87 per cent.			

1.88	10.29	1.20	30	Total for period.....	363	144.18	7.84	26.90			
1.80	12.86	1.97	40	Mean for day.....	36	14.42	60.28	.78	2.69			
1.86	9.82	1.64	40									
2.24	11.11	1.60	40									
1.65	15.20	1.38	40									
1.78	16.37	1.40	40									
1.76	16.72	1.09	50									
2.38	16.13	1.21	40									
1.92	9.94	1.82	40									
1.94	13.91	1.48	40									
BALANCES FOR PERIOD.												
				Nitrogen in—	Ether extract in—							
				Food, grams.....	117.42	Food, grams.....	1,299.16					
				Urine, grams.....	105.90	Feces, grams.....	26.90					
				Feces, grams.....	7.84							
					113.74		+1,272.26					
19.21	132.35	14.79		+3.68							
1.92	13.24	1.48	40	Nitrogen utilization, 93.32 per cent; fat utilization, 97.93 per cent.								

SUBJECT No. 4 (W. S. G.)—PERIOD 2.

Date.		Urine.											
		Volume.	Specific gravity.	Nitrogen.						Sulphur.			
				Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
May	11	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
	12	970	1.023	10.97	9.28	0.594	0.513	0.144	0.035	0.728	0.554	0.129	0.045
	13	1,320	1.019	8.91	7.34	.549	.457	.148	.025	.610	.457	.108	.045
	14	1,490	1.016	9.33	7.67	.592	.482	.137	.035	.685	.525	.110	.050
	15	1,920	1.013	8.39	6.86	.581	.423	.128	.037	.634	.488	.122	.024
	16	910	1.027	8.77	7.13	.622	.392	.164	.024	.718	.555	.121	.042
	17	820	1.027	8.22	6.71	.602	.405	.133	.026	.620	.466	.112	.042
	18	940	1.021	9.37	7.69	.568	.520	.134	.020	.667	.499	.120	.048
	19	1,480	1.015	8.33	6.77	.548	.520	.123	.020	.584	.442	.111	.031
	20	880	1.027	8.05	6.52	.637	.379	.148	.022	.641	.460	.124	.057
		1,240	1.019	8.98	7.45	.563	.448	.131	.015	.609	.457	.103	.049
Total..		11,970	.....	89.32	73.42	5.856	4.539	1.390	.259	6.496	4.903	1.160	.433
Mean..		1,197	1.021	8.93	7.34	.586	.454	.139	.026	.650	.490	.116	.043

SUBJECT No. 4 (W. S. G.)—PERIOD 3.

May 21	2,140	1.011	8.13	6.76	0.591	0.406	0.131	0.015	0.594	0.441	0.117	0.036
22	1,630	1.016	8.36	6.83	.638	.392	.156	.014	.611	.446	.109	.056
23	1,070	1.020	7.66	6.25	.526	.455	.120	.020	.578	.447	.111	.020
24	1,970	1.013	7.83	6.30	.543	.486	.112	.043	.546	.395	.101	.050
25	1,690	1.016	7.41	5.95	.539	.419	.115	.050	.528	.377	.110	.041
26	1,300	1.020	8.44	6.75	.601	.475	.126	.054	.595	.444	.088	.063
27	1,180	1.020	8.92	7.35	.581	.408	.148	.027	.679	.544	.087	.048
28	780	1.026	7.91	6.34	.555	.421	.139	.025	.691	.542	.116	.033
29	720	1.031	8.68	7.14	.590	.437	.162	.022	.650	.465	.110	.075
30	1,110	1.024	8.46	7.06	.633	.401	.159	.022	.650	.480	.121	.049
Total..	13,590	.....	81.80	66.73	5.797	4.300	1.368	.292	6.122	4.581	1.070	.471
Mean..	1,359	1.020	8.18	6.67	.580	.430	.137	.029	.612	.458	.107	.047

SUBJECT No. 4 (W. S. G.)—PERIOD 4.

May 31	660	1.030	7.51	5.78	0.579	0.477	0.133	0.026	0.608	0.457	0.112	0.039
June 1	830	1.023	8.38	6.83	.517	.428	.153	.019	.603	.447	.104	.052
2	1,010	1.023	8.07	6.57	.517	.444	.148	.027	.569	.419	.111	.039
3	1,470	1.018	8.98	7.39	.557	.461	.167	.025	.666	.502	.119	.045
4	1,380	1.018	8.11	6.46	.555	.414	.142	.054	.532	.373	.111	.048
5	1,520	1.020	8.28	6.51	.597	.367	.178	.031	.579	.409	.133	.037
6	720	1.031	7.51	5.76	.576	.432	.148	.046	.642	.476	.128	.038
7	1,040	1.024	9.12	7.37	.537	.405	.153	.039	.640	.457	.129	.054
8	700	1.029	8.36	6.61	.574	.455	.136	.037	.680	.509	.122	.049
9	1,140	1.025	8.86	7.33	.531	.396	.155	.036	.609	.454	.111	.044
Total..	10,470	.....	83.18	66.61	5.540	4.279	1.513	.340	6.128	4.503	1.180	.445
Mean..	1,047	1.024	8.32	6.66	.554	.428	.151	.034	.613	.450	.118	.045

SUBJECT No. 4 (W. S. G.)—PERIOD 5.

June 10	1,320	1.021	9.48	7.90	0.527	0.408	0.156	0.026	0.703	0.540	0.115	0.048
11	1,550	1.019	9.16	7.69	.556	.493	.151	.025	.689	.545	.088	.056
12	1,170	1.020	7.48	6.07	.581	.354	.147	.022	.568	.429	.080	.059
13	900	1.026	7.87	6.36	.597	.340	.170	.038	.589	.429	.104	.056
14	750	1.030	7.76	6.13	.596	.421	.144	.043	.628	.465	.120	.043
15	750	1.030	7.77	6.26	.563	.376	.153	.046	.628	.479	.099	.050
16	640	1.032	7.93	6.37	.590	.423	.133	.050	.579	.452	.070	.057
17	640	1.032	8.32	6.69	.576	.421	.137	.078	.684	.531	.110	.043
18	730	1.029	8.22	6.87	.560	.343	.120	.088	.664	.512	.110	.042
19	630	1.032	8.30	6.66	.578	.479	.128	.052	.644	.489	.100	.055
Total..	9,080	.....	82.29	67.00	5.724	4.058	1.439	.468	6.376	4.871	.996	.509
Mean..	908	1.027	8.23	6.70	.572	.406	.144	.047	.638	.487	.100	.051

feces analyses—Continued.

SUBJECT No. 4 (W. S. G.)—PERIOD 2.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indian-ling's sol.=100).		Weight.				
Gms.	Gms.	Gms.			Moist.	Dry.	Water.	Nitrogen.	Ether extract.
1.91	11.22	1.56	50	Total for period.....	Gms. 548	Gms. 166.48	Per ct. 69.62	Gms. 10.19	Gms. 29.26
1.57	14.97	1.15	40	Mean for day.....	55	16.65		1.02	2.93
1.40	14.03	1.06	40	BALANCES FOR PERIOD.					
1.44	16.49	.96	50	Nitrogen in—					
1.78	13.33	.96	40	Food, grams.....	100.65				
1.73	12.86	.94	20	Urine, grams.....	89.32				
1.74	11.58	1.45	50	Feces, grams.....	10.19				
1.71	13.63	1.49	40		99.51				
1.95	13.80	.90	30						
1.74	13.91	1.05	40						
16.97	135.87	11.52	.....		+1.14				
1.70	13.59	1.15	40	Nitrogen utilization, 89.88 per cent; fat utilization, 97.79 per cent.					

SUBJECT No. 4 (W. S. G.)—PERIOD 3.

1.55	14.77	1.13	30	Total for period.....	572	191.96	.....	12.47	38.78
1.89	14.38	1.09	40	Mean for day.....	57	19.20	66.44	1.25	3.88
1.57	10.76	1.16	30	BALANCES FOR PERIOD.					
1.88	15.20	1.48	30	Nitrogen in—					
1.70	16.72	1.06	15	Food, grams.....	96.01				
1.91	16.37	1.31	30	Urine, grams.....	81.80				
1.91	13.33	1.33	40	Feces, grams.....	12.47				
1.80	11.11	1.72	40		94.27				
1.80	11.58	1.45	40						
1.70	17.54	1.29	30						
17.71	141.76	13.02	.....		+1.74				
1.77	14.18	1.30	33	Nitrogen utilization, 87.01 per cent; fat utilization, 97.14 per cent.					

SUBJECT No. 4 (W. S. G.)—PERIOD 4.

1.86	11.22	1.58	40	Total for period.....	475	159.79	.....	9.93	40.66
1.62	13.91	1.05	40	Mean for day.....	48	15.98	66.36	.99	4.07
1.66	14.15	1.02	40	BALANCES FOR PERIOD.					
1.82	18.12	1.55	40	Nitrogen in—					
1.64	14.26	1.13	30	Food, grams.....	112.07				
1.40	19.88	.70	40	Urine, grams.....	83.18				
1.72	10.41	1.48	30	Feces, grams.....	9.93				
1.55	15.20	1.09	40		93.11				
1.88	11.69	1.49	50						
1.68	18.12	1.22	50						
16.83	146.96	12.31	.....		+18.96				
1.68	14.70	1.23	40	Nitrogen utilization, 91.14 per cent; fat utilization, 97.13 per cent.					

SUBJECT NO. 4 (W. S. G.)—PERIOD 5.

1.78	15.67	1.20	60	Total for period.....	687	220.73	.....	14.01	46.58
1.78	16.60	1.58	50	Mean for day.....	69	22.07	67.87	1.40	4.66
1.89	14.38	1.36	50	BALANCES FOR PERIOD.					
1.80	14.26	1.12	30	Nitrogen in—					
1.73	12.98	1.58	40	Food, grams.....	107.75				
1.76	14.15	1.69	40	Urine, grams.....	82.29				
1.82	11.11	1.64	40	Feces, grams.....	14.01				
1.80	10.76	1.72	50		96.30				
1.37	14.15	1.51	40						
2.04	10.76	2.21	60						
17.79	134.82	15.61	.....		+11.45				
1.78	13.48	1.56	46	Nitrogen utilization, 87 per cent; fat utilization, 96.88 per cent.					

SUBJECT No. 4 (W. S. G.)—PERIOD 6.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
June 20	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
21	660	1.030	8.02	6.40	.577	0.502	0.123	0.041	0.559	0.399	0.129	0.031
22	980	1.023	8.16	6.56	.560	0.410	.123	.046	.581	.442	.082	.057
23	950	1.028	8.89	7.35	.573	.385	.131	.035	.641	.497	.103	.038
24	840	1.025	7.09	5.58	.575	.423	.095	.067	.579	.422	.119	.038
25	860	1.027	8.04	6.52	.538	.385	.108	.072	.573	.423	.100	.050
26	1,470	1.017	7.24	5.64	.551	.406	.105	.054	.578	.429	.111	.038
27	1,150	1.018	7.27	5.58	.652	.529	.111	.055	.500	.363	.090	.047
28	1,460	1.013	8.57	6.79	.721	.529	.144	.073	.608	.443	.110	.055
29	1,720	1.018	8.10	6.55	.574	.405	.144	.049	.609	.456	.109	.044
29	780	1.028	6.51	5.00	.592	.388	.151	.052	.586	.433	.106	.047
Total..	10,870	.....	77.89	61.97	5.913	4.422	1.235	.555	5.814	4.307	1.062	.445
Mean..	1,087	1.023	7.79	6.20	.591	.442	.124	.056	.581	.431	.103	.045

SUBJECT No. 4 (W. S. G.)—PERIOD 7.

June 30	650	1.032	7.10	5.58	0.615	0.392	0.155	0.053	0.523	0.392	0.098	0.033
July 1	830	1.028	8.29	6.58	.561	.372	.178	.060	.600	.496	.115	.049
2	720	1.031	8.21	6.72	.512	.347	.155	.082	.686	.488	.139	.059
3	640	1.032	8.52	6.97	.561	.517	.137	.077	.640	.466	.129	.045
4	1,060	1.021	9.03	7.54	.531	.511	.133	.068	.567	.404	.121	.042
5	760	1.029	7.83	6.30	.472	.430	.134	.074	.613	.465	.105	.042
6	1,080	1.021	7.35	5.80	.532	.459	.122	.074	.574	.410	.112	.052
7	710	1.030	7.32	5.81	.513	.365	.156	.050	.567	.425	.098	.044
8	690	1.030	7.38	5.80	.525	.390	.150	.047	.584	.425	.113	.046
9	700	1.030	7.43	5.93	.517	.396	.131	.054	.559	.399	.112	.048
Total..	7,830	.....	78.46	63.03	5.339	4.179	1.451	.639	5.973	4.370	1.143	.460
Mean..	783	1.028	7.85	6.30	.534	.418	.145	.064	.597	.437	.114	.046

SUBJECT No. 4 (W. S. G.)—PERIOD 8.

July 10	930	1.029	7.99	6.55	0.536	0.372	0.159	0.033	0.585	0.426	0.115	0.044
11	670	1.029	6.36	4.86	.484	.410	.111	.055	.521	.377	.096	.048
12	880	1.024	6.95	5.40	.496	.379	.120	.067	.555	.380	.113	.062
13	850	1.029	7.52	5.93	.498	.356	.134	.077	.642	.476	.106	.060
14	640	1.030	7.04	5.65	.465	.352	.120	.082	.624	.437	.107	.080
15	620	1.032	7.66	6.32	.482	.381	.150	.045	.590	.423	.106	.061
16	840	1.029	7.87	6.55	.483	.336	.219	.055	.567	.421	.107	.039
17	910	1.029	8.89	7.39	.513	.394	.274	.033	.686	.506	.123	.057
18	1,110	1.023	8.88	7.21	.533	.432	.170	.081	.578	.423	.118	.037
19	1,530	1.019	9.93	8.07	.506	.486	.306	.047	.686	.510	.118	.058
Total..	8,980	.....	79.09	63.93	4.996	3.898	1.763	.575	6.034	4.379	1.109	.546
Mean..	898	1.027	7.91	6.39	.500	.390	.176	.058	.603	.438	.111	.055

SUBJECT No. 4 (W. S. G.)—PERIOD 9.

July 20	1,110	1.021	8.78	7.20	0.509	0.457	0.248	0.046	0.675	0.513	0.121	0.041
21	610	1.034	7.71	6.35	.524	.412	.169	.110	.667	.488	.121	.058
22	610	1.032	9.96	8.35	.525	.370	.180	.047	.751	.569	.131	.051
23	590	1.032	8.57	7.04	.464	.392	.147	.059	.655	.506	.142	.007
24	860	1.029	9.65	8.06	.535	.441	.177	.053	.810	.630	.142	.938
25	530	1.032	7.65	6.17	.489	.392	.134	.051	.633	.473	.124	.036
26	590	1.033	7.56	6.20	.469	.340	.126	.054	.632	.473	.108	.051
27	580	1.033	8.74	7.17	.501	.345	.150	.037	.669	.497	.126	.046
28	915	1.032	10.69	9.04	.500	.372	.252	.022	.885	.671	.178	.036
29	760	1.029	8.95	7.12	.523	.535	.180	.028	.719	.531	.131	.057
Total..	7,155	.....	88.26	72.70	5.039	4.056	1.763	.507	7.096	5.351	1.324	.421
Mean..	716	1.031	8.83	7.27	.504	.406	.176	.051	.710	.535	.132	.042

feces analyses—Continued.

SUBJECT No. 4 (W. S. G.)—PERIOD 6.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl	Total acidity as oxalic acid.	Indican (Feh- ling's sol. = 100).		Weight.				
					Moist.	Dry.	Water.	Nitrogen.	Ether extract.
Gms.	Gms.	Gms.			Gms.	Gms.	Per ct.	Gms.	Gms.
2.13	11.69	2.40	40	Total for period.....	527	152.62	.....	9.01	33.25
1.91	14.62	1.43	80	Mean for day.....	53	15.26	71.04	.90	3.33
2.30	13.80	1.72	70	BALANCES FOR PERIOD.					
2.08	12.86	1.76	70	Nitrogen in—		Ether extract in—			
1.74	14.03	1.80	60	Food, grams.....	100.72	Food, grams.....		1,309.99	
1.24	18.24	1.25	50	Urine, grams.....	77.89	Feces, grams.....		33.25	
1.74	14.03	1.87	60	Feces, grams.....	9.01				
1.66	21.40	1.72	Trace.		86.90				+1,276.74
1.59	22.10	.84	55		+13.82				
1.69	13.33	1.39	40	Nitrogen utilization, 91.05 per cent; fat utilization, 97.46 per cent.					
18.08	156.10	16.18	.....					
1.81	15.61	1.62	53						

SUBJECT No. 4 (W. S. G.)—PERIOD 7.

1.60	11.11	1.34	50	Total for period.....	562	178.83	.....	11.58	34.51
1.75	16.02	1.41	60	Mean for day.....	56	17.88	68.18	1.16	3.45
1.38	14.15	.92	50	BALANCES FOR PERIOD.					
1.89	10.76	1.90	40	Nitrogen in—		Ether extract in—			
1.75	16.25	1.56	30	Food, grams.....	98.78	Food, grams.....		1,362.71	
2.04	11.58	1.48	55	Urine, grams.....	78.46	Feces, grams.....		34.51	
1.40	14.85	1.48	50	Feces, grams.....	11.58				
1.60	13.33	.87	40		90.04				+1,328.20
1.37	13.45	1.02	40		+8.74				
1.40	14.03	1.26	50	Nitrogen utilization, 88.28 per cent; fat utilization, 97.47 per cent.					
16.18	135.53	13.24	.....					
1.62	13.55	1.32	47						

SUBJECT No. 4 (W. S. G.)—PERIOD 8.

1.29	17.30	0.85	40	Total for period.....	600	174.72	.....	12.00	42.18
1.49	10.99	1.44	40	Mean for day.....	60	17.47	70.88	1.20	4.22
1.73	13.45	1.38	40	BALANCES FOR PERIOD.					
1.55	15.43	.89	70	Nitrogen in—		Ether extract in—			
1.40	12.03	1.09	80	Food, grams.....	107.73	Food, grams.....		1,364.28	
1.60	11.11	1.20	70	Urine, grams.....	79.09	Feces, grams.....		42.18	
1.38	16.60	.96	50	Feces, grams.....	12.00				
2.40	14.85	1.24	60		+91.09				+1,322.10
1.63	17.07	1.29	50		+16.64				
2.22	19.52	1.48	50	Nitrogen utilization, 88.86 per cent; fat utilization, 96.91 per cent.					
16.69	148.95	11.92	.....					
1.67	14.90	1.19	55						

SUBJECT No. 4 (W. S. G.)—PERIOD 9.

2.10	8.30	1.79	60	Total for period.....	592	183.62	.....	11.47	40.10
1.65	10.52	1.50	60	Mean for day.....	58	18.36	68.45	1.15	4.01
1.80	8.54	1.38	60	BALANCES FOR PERIOD.					
1.60	9.35	1.35	60	Nitrogen in—		Ether extract in—			
2.00	15.78	1.93	60	Food, grams.....	93.65	Food, grams.....		1,321.94	
1.55	9.24	1.61	60	Urine, grams.....	88.26	Feces, grams.....		40.10	
1.60	10.17	1.64	40	Feces, grams.....	11.47				
1.50	9.59	1.22	70		99.73				+1,281.84
2.27	16.37	1.52	70		-6.08				
1.69	15.67	2.01	70	Nitrogen utilization, 87.75 per cent; fat utilization, 96.96 per cent.					
17.77	113.53	15.95	.....					
1.78	11.35	1.60	61						

SUBJECT No. 4 (W. S. G.)—PERIOD 10.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
	<i>c. c.</i>		<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>
July 30	560	1.030	8.04	6.60	0.462	0.497	0.145	0.035	0.644	0.489	0.103	0.052
31	850	1.026	9.19	7.69	.483	.520	.155	.037	.626	.447	.117	.062
Aug. 1	700	1.030	8.50	6.82	.469	.553	.115	.060	.707	.522	.105	.080
2	810	1.027	8.78	6.95	.481	.508	.133	.049	.631	.457	.096	.078
3	920	1.022	7.04	5.75	.469	.419	.087	.070	.640	.466	.120	.054
4	630	1.029	6.67	5.30	.463	.390	.086	.061	.545	.378	.106	.061
5	1,100	1.024	7.52	6.20	.472	.367	.092	.090	.549	.359	.115	.075
6	680	1.029	6.64	5.37	.462	.287	.098	.082	.560	.396	.129	.035
7	920	1.028	8.85	7.11	.517	.372	.147	.068	.670	.473	.137	.060
8	690	1.026	7.18	5.66	.489	.347	.098	.074	.515	.387	.108	.020
Total..	7,860	.....	78.41	63.45	4.767	4.260	1.156	.626	6.087	4.374	1.136	.577
Mean..	786	1.027	7.84	6.35	.477	.426	.116	.063	.609	.437	.114	.058

SUBJECT No. 4 (W. S. G.)—PERIOD 11.

Aug. 9	710	1.031	7.42	5.82	0.474	0.383	0.036	0.153	0.589	0.435	0.110	0.044
10	860	1.028	7.99	6.45	.504	.410	.114	.066	.637	.453	.098	.086
11	760	1.028	7.07	5.63	.487	.372	.137	.030	.597	.422	.128	.047
12	820	1.030	8.24	6.68	.510	.309	.167	.031	.674	.499	.125	.050
13	560	1.030	6.42	5.10	.443	.396	.114	.030	.529	.384	.114	.031
14	860	1.029	8.77	7.14	.522	.381	.167	.034	.606	.439	.121	.046
15	600	1.031	6.70	5.29	.434	.394	.117	.057	.564	.380	.125	.059
16	1,957	1.024	8.68	6.73	.597	.646	.245	.031	.638	.382	.169	.087
17	330	1.031	6.20	4.57	.500	.652	.105	.044	.590	.401	.111	.078
18	430	1.035	8.64	7.12	.488	.529	.155	.026	.620	.437	.110	.073
Total..	6,887	.....	76.13	60.53	4.959	4.472	1.357	.502	6.044	4.232	1.211	.601
Mean..	689	1.030	7.61	6.05	.496	.447	.136	.050	.604	.423	.121	.060

SUBJECT No. 4 (W. S. G.)—PERIOD 12.

Aug. 19	410	1.031	7.01	5.69	0.453	0.423	0.139	0.037	0.452	0.290	0.089	0.073
20	440	1.032	7.49	6.08	.501	.320	.162	.049	.451	.310	.099	.042
21	680	1.031	8.24	6.84	.521	.302	.198	.056	.609	.444	.105	.060
22	650	1.032	6.90	5.41	.465	.338	.151	.052	.529	.367	.086	.076
23	850	1.026	6.62	5.12	.484	.284	.130	.074	.559	.395	.093	.071
24	550	1.031	5.57	4.03	.493	.372	.222	.076	.522	.360	.085	.077
25	1,210	1.029	10.26	7.92	.722	.526	.305	.065	.746	.528	.154	.064
26	1,470	1.021	7.80	6.33	.463	.345	.200	.038	.614	.460	.106	.048
27	1,020	1.024	6.55	5.43	.450	.213	.153	.048	.569	.415	.117	.037
28	950	1.027	7.67	6.20	.494	.264	.145	.066	.715	.547	.120	.048
Total..	8,230	.....	74.11	59.05	5.046	3.387	1.805	.561	5.766	4.116	1.054	.596
Mean..	823	1.028	7.41	5.91	.505	.339	.181	.056	.577	.412	.105	.060

SUBJECT No. 5 (E. J. C.)—PERIOD 1.

May 1	1,270	1.018	12.85	11.08	0.671	0.419	0.167	0.131	0.896	0.712	0.120	0.064
2	990	1.032	12.95	10.81	.731	.511	.162	.141	.892	.695	.123	.074
3	1,000	1.027	12.70	10.69	.693	.475	.177	.115	.884	.664	.150	.070
4	1,250	1.021	11.94	10.08	.695	.435	.155	.105	.797	.604	.135	.058
5	840	1.028	9.82	7.91	.706	.439	.128	.118	.711	.526	.126	.059
6	1,150	1.026	11.36	9.51	.731	.390	.173	.103	.768	.559	.150	.059
7	1,240	1.020	10.10	8.34	.701	.352	.151	.094	.770	.582	.131	.057
8	1,240	1.032	10.82	9.02	.792	.403	.148	.118	.856	.658	.133	.065
9	1,150	1.023	10.70	8.81	.717	.408	.139	.126	.752	.576	.117	.059
10	1,070	1.027	11.29	9.48	.733	.412	.145	.141	.788	.595	.133	.060
Total..	11,200	.....	114.53	95.73	7.170	4,244	1.545	1.192	8.114	6.171	1.318	.625
Mean..	1,120	1.025	11.45	9.57	.717	.424	.155	.119	.811	.617	.132	.063

¹ These are the corrected values, on account of the approximately known values added from the urine of No. 3 for the same date.

feces analyses—Continued.

SUBJECT No. 4 (W. S. G.)—PERIOD 10.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol.=100).	Weight.		Water.	Nitrogen.	Ether extract.	
Gms.	Gms.	Gms.		Moist.	Dry.				
1.66	8.77	1.89	70	Total for period.....	783	232.86	.....	15.11	54.65
1.95	12.74	1.61	80	Mean for day.....	78	23.29	70.26	1.51	5.47
1.98	9.82	1.93	80	BALANCES FOR PERIOD.					
1.97	12.86	1.61	80	Nitrogen in—	Ether extract in—				
1.36	12.86	1.00	60	Food, grams.....	91.80	Food, grams.....			
1.48	9.82	1.42	80	Urine, grams.....	78.41	Feces, grams.....			
1.38	14.62	1.06	80	Feces, grams.....	15.11				
1.67	11.93	.81	70		93.52				
1.84	14.62	1.02	80		—1.72				
1.59	13.33	1.06	70	Nitrogen utilization, 83.54 per cent; fat utilization, 95.47 per cent.					
16.88	121.37	13.41	.....					
1.69	12.14	1.34	75						

SUBJECT No. 4 (W. S. G.)—PERIOD 11.

1.86	13.10	1.62	60	Total for period.....	2,031	220.57	.....	16.45	77.18
1.62	13.91	1.37	60	Mean for day.....	203	22.06	89.14	1.65	7.72
1.65	14.03	1.15	70	BALANCES FOR PERIOD.					
1.92	15.08	.81	60						
1.51	8.65	1.34	50						
1.62	15.32	.96	30						
1.01	12.28	.94	70						
1.08	14.56	.81	90						
1.38	4.68	1.60	75						
1.04	5.26	1.20	+100						
14.69	116.87	11.80	.....					
1.47	11.69	1.18	67						
				Nitrogen in—	Ether extract in—				
				Food, grams.....	82.20	Food, grams..... 1,140.02			
				Urine, grams.....	76.13	Feces, grams..... 77.18			
				Feces, grams.....	16.45				
					92.58				
					—10.38				
				Nitrogen utilization, 79.99 per cent; fat utilization, 93.23 per cent.					

SUBJECT No. 4 (W. S. G.)—PERIOD 12.

1.44	4.79	1.35	90	Total for period.....	392	131.48	.....	9.09	20.19
1.74	5.14	1.10	80	Mean for day.....	39	13.15	66.46	.91	2.02
1.52	11.22	.55	70	BALANCES FOR PERIOD.					
1.18	11.81	.72	80	Nitrogen in—	Ether extract in—				
1.10	16.25	.32	60	Food, grams.....	88.64	Food, grams.....	1,287.05		
1.50	9.82	1.18	50	Urine, grams.....	74.11	Feces, grams.....	20.19		
2.84	21.05	1.88	80	Feces, grams.....	9.09				
1.92	21.40	1.07	20		83.20				
1.45	15.32	.49	60						
1.94	14.38	.73	60				+1,266.86		
16.63	131.18	9.39	.....		+5.44				
1.66	13.12	.94	65	Nitrogen utilization, 89.75 per cent; fat utilization, 98.43 per cent.					

SUBJECT No. 5 (E. J. C.)—PERIOD 1.

2.42	12.39	2.17	10	Total for period.....	786	216.86	.....	13.52	35.68
2.38	10.17	2.34	5	Mean for day.....	79	21.69	72.41	1.35	3.57
2.50	10.41	2.32	5						
2.35	11.69	1.96	Trace.	BALANCES FOR PERIOD.					
2.39	11.22	2.30	Trace.	Nitrogen in—	Ether extract in—				
2.10	16.37	1.50	10	Food, grams.....	136.60	Food, grams.....			
1.72	14.97	1.01	5	Urine, grams.....	114.53	Feces, grams.....			
2.62	13.10	1.83	15	Feces, grams....	13.52				
2.38	13.56	1.44	10		128.05				
2.21	15.20	1.20	5						
23.07	129.08	18.07	.....		+8.55				
2.31	12.91	1.81	7	Nitrogen utilization, 90.10 per cent; fat utilization, 96.85 per cent.					

SUBJECT No. 5 (E. J. C.)—PERIOD 2.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
May 11	c.c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
11	1,090	1.026	11.81	9.85	0.735	0.435	0.151	0.131	0.866	0.630	0.178	0.058
12	1,170	1.023	10.72	8.90	.687	.428	.125	.131	.643	.498	.109	.036
13	1,270	1.024	11.55	9.45	.722	.482	.173	.126	.812	.622	.133	.057
14	1,450	1.020	10.31	8.57	.737	.482	.148	.110	.711	.530	.122	.059
15	1,070	1.023	9.09	7.51	.585	.372	.120	.114	.684	.519	.114	.051
16	1,350	1.021	10.83	8.92	.691	.396	.147	.113	.737	.547	.133	.057
17	1,350	1.019	10.54	8.56	.690	.419	.134	.124	.732	.543	.140	.049
18	1,260	1.018	9.06	7.46	.625	.394	.111	.102	.629	.479	.119	.031
19	1,440	1.023	11.57	9.51	.780	.405	.172	.097	.820	.589	.160	.071
20	1,230	1.019	9.17	7.68	.595	.358	.095	.099	.599	.441	.113	.045
Total..	12,680	.....	104.65	86.41	6.847	4.171	1.376	1.147	7.233	5.398	1.321	.514
Mean..	1,268	1.022	10.47	8.64	.685	.417	.138	.115	.723	.540	.132	.051

SUBJECT No. 5 (E. J. C.)—PERIOD 3.

May 21	1,400	1.018	10.32	8.69	0.674	0.390	0.139	0.110	0.730	0.532	0.139	0.059
22	1,200	1.024	9.98	8.27	.663	.340	.145	.095	.696	.528	.118	.050
23	1,230	1.021	10.38	8.49	.645	.426	.150	.092	.699	.530	.128	.041
24	1,330	1.027	10.59	8.82	.690	.410	.158	.090	.729	.536	.139	.054
25	1,320	1.020	8.81	7.18	.608	.408	.123	.097	.602	.439	.120	.043
26	1,010	1.025	8.58	6.84	.679	.457	.128	.092	.636	.469	.114	.053
27	1,040	1.025	10.54	8.81	.693	.475	.145	.116	.802	.639	.118	.045
28	870	1.026	10.35	8.52	.655	.444	.145	.096	.650	.501	.122	.036
29	1,020	1.024	11.32	9.55	.647	.401	.167	.092	.723	.523	.137	.063
30	930	1.026	9.68	7.80	.719	.464	.153	.096	.700	.523	.144	.033
Total..	11,350	.....	100.55	82.97	6.673	4.215	1.453	.976	6.976	5.220	1.279	.477
Mean..	1,135	1.024	10.06	8.30	.667	.422	.145	.098	.698	.522	.128	.048

SUBJECT No. 5 (E. J. C.)—PERIOD 4.

May 31	760	1.028	8.71	6.91	0.637	0.520	0.130	0.082	0.684	0.541	0.110	0.033
June 1	760	1.033	9.81	8.00	.611	.444	.184	.090	.724	.539	.124	.061
2	910	1.029	10.70	8.86	.621	.457	.175	.109	.696	.517	.130	.049
3	980	1.025	9.50	7.75	.590	.482	.158	.097	.664	.517	.113	.034
4	1,110	1.028	10.40	8.33	.693	.390	.178	.124	.686	.501	.122	.063
5	1,060	1.026	9.29	7.38	.663	.376	.161	.103	.621	.442	.117	.062
6	1,170	1.023	10.21	8.10	.680	.455	.170	.122	.687	.504	.133	.050
7	1,010	1.026	9.36	7.57	.572	.367	.159	.099	.697	.515	.117	.065
8	1,100	1.025	10.63	8.84	.645	.444	.156	.104	.785	.592	.132	.061
9	970	1.031	11.28	9.50	.672	.358	.184	.110	.819	.618	.146	.055
Total..	9,830	.....	99.89	81.24	6.384	4.293	1.655	1.040	7.063	5.286	1.244	.533
Mean..	983	1.027	9.99	8.12	.638	.429	.166	.104	.706	.529	.124	.053

SUBJECT No. 5 (E. J. C.)—PERIOD 5.

June 10	860	1.032	12.59	10.72	0.598	0.468	0.183	0.108	0.848	0.658	0.130	0.060
11	1,100	1.027	12.82	11.02	.645	.473	.183	.103	.852	.662	.127	.063
12	970	1.029	10.82	8.98	.740	.437	.172	.100	.780	.581	.128	.071
13	860	1.030	10.29	8.56	.682	.376	.172	.117	.696	.486	.149	.061
14	740	1.031	9.82	7.93	.683	.457	.166	.106	.761	.543	.148	.070
15	740	1.033	9.17	7.49	.648	.444	.159	.103	.804	.607	.137	.060
16	660	1.033	10.32	8.41	.675	.473	.161	.103	.733	.559	.098	.076
17	730	1.032	11.05	9.15	.655	.464	.153	.127	.766	.569	.134	.063
18	730	1.034	10.13	8.34	.624	.405	.156	.121	.811	.620	.147	.044
19	640	1.033	9.85	8.07	.634	.506	.136	.109	.698	.517	.127	.054
Total..	8,030	.....	106.86	88.67	6.584	4.503	1.641	1.097	7.749	5.802	1.325	.622
Mean..	803	1.031	10.69	8.87	.658	.450	.146	.110	.775	.580	.133	.062

feces analyses—Continued.

SUBJECT No. 5 (E. J. C.)—PERIOD 2.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol.=100).		Weight.				
					Moist.	Dry.	Water.	Nitrogen.	Ether extract.
Gms.	Gms.	Gms.			Gms.	Gms.	Per ct.	Gms.	Gms.
2.28	13.33	1.59	Trace.	Total for period.....	664	189.57	.....	11.82	27.89
2.08	13.91	1.45	Trace.	Mean for day	66	18.96	71.45	1.18	2.79
2.32	16.49	1.46	Trace.	BALANCES FOR PERIOD.					
1.64	16.02	1.48	Trace.	Nitrogen in—					
2.16	12.86	1.44	5	Food, grams.....	122.26			Food, grams.....	1,197.00
2.32	15.08	1.56	5	Urine, grams....	104.65			Feces, grams.....	27.89
2.02	12.16	1.33	10	Feces, grams....	11.82				
1.98	12.28	1.40	Trace.		116.47				+1169.11
2.50	14.03	1.20	5		+5.79				
1.66	12.51	1.27	Trace.	Nitrogen utilization, 90.33 per cent; fat utilization, 97.67 per cent.					
20.96	138.67	14.18	.....					
2.10	13.87	1.42	3						

SUBJECT No. 5 (E. J. C.)—PERIOD 3.

2.00	12.04	1.63	Trace.	Total for period.....	1,048	233.60	.....	13.83	30.60
2.44	11.46	1.35	Trace.	Mean for day.....	105	23.36	77.71	1.38	3.06
2.20	14.03	1.80	Trace.	BALANCES FOR PERIOD.					
2.20	16.49	1.60	10	Nitrogen in—					
1.68	15.43	1.06	Trace.	Food, grams.....	108.03			Food, grams.....	1,062.97
1.89	13.91	1.79	Trace.	Urine, grams....	100.55			Feces, grams.....	30.60
2.30	12.63	1.94	Trace.	Feces, grams....	13.83				
2.67	11.81	1.99	5		114.38				+1,032.37
2.28	12.16	1.71	20		-6.35				
1.92	12.04	1.69	10	Nitrogen utilization, 87.20 per cent; fat utilization, 97.12 per cent.					
20.98	132.00	16.56	.....					
2.10	13.20	1.66	5						

SUBJECT No. 5 (E. J. C.)—PERIOD 4.

1.89	7.95	2.00	Trace.	Total for period.....	613	185.98	.....	11.65	34.14
2.18	11.81	1.63	10	Mean for day.....	61	18.60	69.66	1.17	3.41
1.95	11.81	1.35	10	BALANCES FOR PERIOD.					
2.42	12.39	2.29	Trace.	Nitrogen in—					
2.10	16.95	1.32	5	Food, grams.....	129.72			Food, grams.....	1,261.09
1.89	14.85	1.25	20	Urine, grams....	99.89			Feces, grams.....	34.14
1.78	15.20	1.43	10	Feces, grams....	11.65				
2.00	14.03	1.40	5		111.54				+1,226.95
2.26	11.11	1.69	20		+18.18				
2.12	15.20	1.30	20	Nitrogen utilization, 91.02 per cent; fat utilization, 97.29 per cent.					
20.59	131.30	15.66	.....					
2.06	13.13	1.57	10						

SUBJECT No. 5 (E. J. C.)—PERIOD 5.

2.44	11.69	2.28	20	Total for period.....	730	242.43	.....	15.11	42.34
2.25	12.74	1.89	20	Mean for day.....	73	24.24	66.79	1.51	4.23
2.27	12.86	1.84	Trace.	BALANCES FOR PERIOD.					
2.29	13.10	1.50	10	Nitrogen in—					
2.00	13.10	2.18	10	Food, grams.....	121.77			Food, grams.....	1,292.18
1.83	12.98	2.09	30	Urine, grams....	106.86			Feces, grams.....	42.34
1.75	10.62	2.04	10	Feces, grams....	15.11				
2.36	10.64	2.06	10		121.97				+1,249.84
1.94	12.28	2.00	Trace.		-0.20				
2.35	10.52	2.48	Trace.	Nitrogen utilization, 87.59 per cent; fat utilization, 96.72 per cent.					
21.48	120.53	20.36	.....					
2.15	12.05	2.04	11						

SUBJECT No. 5 (E. J. C.)—PERIOD 6.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total	Inorganic.	Neutral.	Ethereal.
	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
June 20	840	1.031	10.59	8.71	0.696	0.455	0.195	0.090	0.726	0.524	0.155	0.047
21	850	1.032	11.50	9.58	.724	.448	.211	.091	.823	.637	.126	.060
22	880	1.028	12.12	10.12	.691	.500	.170	.091	.844	.653	.145	.046
23	960	1.028	10.63	8.93	.717	.376	.167	.098	.766	.570	.144	.052
24	800	1.031	10.13	8.31	.645	.414	.155	.114	.821	.617	.145	.059
25	820	1.029	9.39	7.84	.586	.452	.125	.095	.664	.497	.128	.039
26	1,140	1.028	11.74	9.78	.788	.547	.203	.111	.809	.599	.143	.067
27	880	1.030	9.95	8.16	.733	.383	.164	.140	.699	.504	.128	.067
28	860	1.029	10.37	8.51	.640	.497	.155	.136	.737	.570	.120	.047
29	900	1.030	10.46	8.72	.665	.423	.191	.104	.757	.578	.132	.047
Total..	8,930	.....	106.88	88.66	6.885	4.495	1.736	1.070	7.646	5.749	1.366	.531
Mean..	893	1.030	10.69	8.87	.689	.450	.174	.107	.765	.575	.137	.053

SUBJECT No. 5 (E. J. C.)—PERIOD 7.

June 30	740	1.032	10.13	8.29	0.690	0.448	0.173	0.105	0.773	0.590	0.141	0.042
July 1	820	1.032	10.98	9.09	.625	.419	.192	.082	.882	.689	.139	.054
2	660	1.033	11.53	9.74	.632	.522	.173	.147	.932	.702	.164	.066
3	760	1.033	12.78	11.00	.601	.522	.195	.108	.889	.660	.175	.054
4	1,010	1.023	12.30	10.60	.593	.564	.169	.116	.790	.567	.160	.063
5	900	1.029	10.00	8.30	.513	.448	.164	.126	.787	.586	.145	.056
6	820	1.033	10.24	8.29	.573	.482	.175	.129	.828	.609	.161	.058
7	970	1.029	11.13	9.08	.554	.544	.173	.095	.800	.621	.123	.056
8	720	1.032	9.82	7.89	.611	.495	.183	.102	.791	.585	.154	.052
9	750	1.032	10.38	8.54	.619	.405	.180	.092	.817	.597	.160	.060
Total..	8,150	.....	109.29	90.82	6.011	4.849	1.777	1.102	8.289	6.206	1.522	.561
Mean..	815	1.031	10.93	9.08	.601	.485	.178	.110	.829	.621	.152	.056

SUBJECT No. 5 (E. J. C.)—PERIOD 8.

July 10	660	1.031	10.14	8.59	0.504	0.376	0.158	0.096	0.712	0.531	0.134	0.047
11	770	1.032	10.96	8.99	.572	.381	.183	.117	.768	.579	.131	.058
12	970	1.028	10.58	8.81	.562	.361	.161	.127	.724	.514	.162	.048
13	890	1.031	10.59	8.65	.574	.435	.175	.140	.787	.589	.143	.055
14	750	1.031	9.85	8.03	.568	.441	.150	.146	.754	.531	.180	.043
15	750	1.031	9.57	7.88	.550	.448	.158	.101	.741	.544	.141	.056
16	690	1.032	9.55	7.81	.557	.466	.252	.105	.729	.525	.156	.048
17	780	1.031	11.10	9.40	.516	.488	.284	.091	.743	.526	.174	.043
18	620	1.032	9.00	7.14	.533	.464	.167	.131	.602	.420	.137	.045
19	800	1.029	9.68	7.69	.525	.515	.256	.126	.645	.453	.138	.054
Total..	7,680	.....	101.02	82.99	5.461	4.375	1.944	1.180	7.205	5.212	1.496	.497
Mean..	768	1.031	10.10	8.30	.546	.438	.194	.118	.721	.521	.150	.050

SUBJECT No. 5 (E. J. C.)—PERIOD 9.

July 20	750	1.032	9.55	7.71	0.607	0.564	0.253	0.108	0.690	0.506	0.147	0.037
21 ¹	.....	.....	² 9.90	.....	.....	.....	.....	.....	.....	.....	.....	.....
22	590	1.034	9.86	8.00	.576	.444	.187	.096	.863	.633	.176	.054
23	640	1.034	8.83	7.05	.545	.412	.173	.095	.739	.534	.166	.039
24	610	1.033	9.00	7.52	.555	.365	.173	.096	.736	.533	.160	.043
25	490	1.035	9.11	7.39	.558	.379	.158	.126	.715	.513	.151	.051
26	570	1.033	9.13	7.54	.504	.300	.150	.093	.698	.469	.169	.060
27	800	1.031	12.62	10.50	.632	.508	.230	.091	.908	.640	.196	.072
28	680	1.033	10.72	8.82	.538	.517	.241	.081	.809	.586	.184	.039
29	770	1.033	10.32	8.35	.577	.540	.241	.060	.810	.571	.184	.055
Total..	5,900	.....	99.04	72.88	5.092	4.029	1.806	.851	6.968	4.985	1.533	.450
Mean..	² 656	² 1.033	² 9.90	² 8.10	² .566	² .448	² .201	² .095	² .774	² .554	² .170	² .050

¹ Bottle broken.² Mean for 9 determinations.

feces analyses—Continued.

SUBJECT No. 5 (E. J. C.)—PERIOD 6.

Urine—Continued.				Feces.					
Phosphoric acid as P ₂ O ₅ .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Fehling's sol.=100).		Weight.				
Gms.	Gms.	Gms.			Moist.	Dry.	Water.	Nitrogen.	Ether extract.
2.46	12.86	2.30	Trace.	Total for period.....	708	214.59		12.81	37.31
2.50	12.98	2.21	20	Mean for day.....	71	21.46	69.69	1.28	3.73
2.05	13.80	2.11	20	BALANCES FOR PERIOD.					
1.98	16.60	1.60	20	Nitrogen in—		Ether extract in—			
2.28	14.62	2.14	10	Food, grams.....	118.53	Food, grams.....		1,247.54	
2.02	14.26	1.90	10	Urine, grams.....	106.88	Feces, grams.....		37.31	
2.70	20.46	2.88	10	Feces, grams.....	12.81				
1.96	16.49	1.29	10		119.69				+1,210.23
1.96	16.02	1.89	10		-1.16				
2.28	16.37	1.91	5	Nitrogen utilization, 89.19 per cent; fat utilization, 97.01 per cent.					
22.19	154.46	20.23	.....					
2.22	15.45	2.02	12						

SUBJECT No. 5 (E. J. C.)—PERIOD 7.

2.16	12.86	1.86	20	Total for period.....	508	168.86	.....	9.91	26.57
1.92	14.73	1.60	Trace.	Mean for day.....	51	16.89	66.76	9.99	.66
2.30	9.47	2.24	Trace.	BALANCES FOR PERIOD.					
2.40	11.93	2.36	20	Nitrogen in—		Ether extract in—			
2.28	12.28	2.26	10	Food, grams.....	124.50	Food, grams.....		1,353.49	
1.98	16.13	1.16	25	Urine, grams.....	109.29	Feces, grams.....		26.57	
2.10	14.85	3.09	20	Feces, grams.....	9.91				
2.04	16.95	1.91	Trace.		119.20				+1,326.92
2.28	12.74	2.40	10		+5.30				
1.66	13.56	1.46	20	Nitrogen utilization, 92.04 per cent; fat utilization, 98.04 per cent.					
21.12	135.50	20.34	.....					
2.11	13.55	2.03	13						

SUBJECT No. 5 (E. J. C.)—PERIOD 8.

2.23	9.12	1.89	10	Total for period.....	839	191.71	.....	13.42	37.92
2.29	13.10	1.64	Trace.	Mean for day.....	84	19.17	77.15	1.34	3.79
1.96	12.98	1.11	10	BALANCES FOR PERIOD.					
2.28	15.90	1.86	20	Nitrogen in—		Ether extract in—			
1.91	12.86	1.72	30	Food, grams.....	118.50	Food, grams.....		1,250.63	
1.92	13.68	1.66	20	Urine, grams.....	101.02	Feces, grams.....		37.92	
2.38	11.93	2.36	20	Feces, grams.....	13.42				
2.28	11.46	2.02	20		114.44				+1,212.71
1.84	10.87	1.63	30		+4.06				
2.08	13.21	1.44	20	Nitrogen utilization, 88.67 per cent; fat utilization, 96.97 per cent.					
21.17	125.11	17.33	.....					
2.12	12.51	1.73	18						

SUBJECT No. 5 (E. J. C.)—PERIOD 9.

2.02	13.56	1.82	30	Total for period.....	1,077	214.32	.....	15.51	36.62
1.78	8.54	1.82	20	Mean for day.....	108	21.43	80.10	1.55	3.66
1.63	10.87	1.36	20	BALANCES FOR PERIOD.					
1.88	9.47	2.00	10	Nitrogen in—		Ether extract in—			
1.67	5.61	1.88	10	Food, grams.....	106.35	Food, grams.....		1,238.78	
1.72	7.02	.98	10	Urine, grams.....	99.04	Feces, grams.....		36.62	
2.54	7.48	2.43	20	Feces, grams.....	15.51				
2.83	9.12	2.51	20		114.55				+1,202.16
2.36	14.38	2.36	10		-8.20				
18.43	86.05	17.21	.....	Nitrogen utilization, 85.42 per cent; fat utilization, 97.04 per cent.					
2.05	9.56	2.19	217						

SUBJECT No. 5 (E. J. C.)—PERIOD 10.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
	c.c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
July 30	560	1.032	8.47	6.89	0.505	0.508	0.153	0.081	0.608	0.440	0.112	0.056
31	940	1.024	9.48	7.73	.514	.515	.150	.091	.706	.486	.163	.057
Aug. 1	1,000	1.023	8.71	6.82	.538	.520	.123	.115	.775	.543	.172	.060
2	650	1.032	7.96	6.17	.526	.466	.120	.130	.662	.457	.132	.073
3	760	1.031	8.75	7.07	.540	.365	.133	.130	.722	.502	.160	.060
4	680	1.029	7.39	5.89	.524	.311	.120	.110	.647	.442	.165	.040
5	670	1.029	7.24	5.68	.525	.343	.097	.144	.640	.430	.155	.055
6	800	1.030	8.58	6.84	.570	.401	.136	.111	.637	.424	.156	.047
7	1,060	1.027	11.14	8.86	.704	.587	.195	.109	.850	.574	.218	.058
8	650	1.030	7.45	5.73	.569	.356	.111	.126	.637	.452	.148	.037
Total..	7,770	.....	85.17	67.68	5.515	4.372	1.338	1.147	6.884	4.760	1.581	.543
Mean..	777	1.029	8.52	6.77	.552	.437	.134	.115	.688	.476	.158	.054

SUBJECT No. 5 (E. J. C.)—PERIOD 11.

Aug. 9	600	1.032	8.25	6.53	0.500	0.374	0.084	0.158	0.658	0.471	0.140	0.047
10	710	1.028	7.84	6.23	.523	.379	.083	.145	.637	.442	.117	.078
11	530	1.031	7.46	5.77	.567	.526	.105	.094	.576	.358	.164	.054
12	540	1.031	6.56	4.90	.553	.405	.120	.080	.542	.356	.141	.045
13	530	1.033	6.84	5.31	.561	.412	.156	.061	.658	.451	.156	.051
14	390	1.036	7.04	5.29	.539	.459	.141	.088	.609	.426	.142	.041
15	550	1.033	7.60	5.86	.584	.421	.142	.107	.639	.422	.160	.057
16	860	1.031	10.51	8.62	.559	.468	.192	.116	.862	.630	.175	.057
17	790	1.028	9.82	7.98	.590	.515	.191	.089	.902	.671	.169	.062
18	480	1.035	8.15	6.48	.562	.452	.172	.080	.671	.452	.169	.050
Total..	5,980	.....	80.07	62.97	5.538	4.411	1.386	1.018	6.754	4.679	1.533	.542
Mean..	598	1.032	8.01	6.30	.554	.441	.139	.102	.675	.468	.153	.054

SUBJECT No. 5 (E. J. C.)—PERIOD 12.

Aug. 19	550	1.030	6.42	4.98	0.466	0.323	0.147	0.077	0.548	0.363	0.123	0.062
20	990	1.023	6.08	4.72	.578	.298	.130	.095	.559	.356	.157	.046
21	600	1.032	6.12	4.58	.542	.370	.130	.135	.666	.485	.119	.062
22	750	1.029	7.21	5.66	.534	.345	.150	.126	.622	.441	.110	.071
23	730	1.030	6.08	4.45	.535	.249	.122	.124	.552	.363	.122	.067
24	430	1.035	5.39	3.93	.541	.240	.122	.111	.574	.402	.104	.068
25	590	1.029	5.69	4.71	.315	.092	.133	.069	.342	.225	.100	.017
26	780	1.029	8.50	6.94	.518	.497	.164	.104	.670	.454	.141	.075
27	900	1.027	8.72	6.87	.542	.452	.203	.088	.684	.477	.170	.037
28	1,260	1.020	9.51	7.80	.555	.439	.170	.130	.878	.652	.161	.065
Total..	7,580	.....	69.72	54.64	5.126	3.305	1.471	1.059	6.095	4.218	1.307	.570
Mean..	758	1.028	6.97	5.46	.513	.331	.147	.106	.610	.422	.131	.057

SUBJECT No. 6 (P. L. N.)—PERIOD 1.

May 1	1,040	1.028	11.39	9.85	0.625	0.470	0.112	0.106	0.722	0.549	0.152	0.021
2	970	1.029	12.19	9.99	.690	.556	.120	.125	.825	.642	.124	.059
3	1,020	1.027	12.40	10.55	.691	.526	.159	.076	.845	.652	.141	.052
4	1,020	1.026	11.11	9.35	.654	.529	.141	.070	.745	.581	.145	.019
5	1,100	1.025	10.58	8.65	.659	.553	.126	.081	.735	.554	.139	.042
6	1,130	1.026	10.18	8.42	.642	.558	.114	.087	.709	.532	.153	.024
7	1,190	1.022	10.63	8.87	.668	.529	.123	.085	.804	.624	.140	.040
8	1,070	1.027	10.59	8.79	.715	.564	.128	.085	.692	.540	.124	.028
9	1,050	1.025	9.72	7.90	.726	.618	.112	.091	.699	.530	.123	.046
10	990	1.028	10.09	8.34	.645	.517	.141	.087	.697	.521	.132	.044
Total..	10,580	.....	108.88	90.71	6.715	5.420	1.276	.893	7.473	5.725	1.373	.375
Mean..	1,058	1.026	10.89	9.07	.672	.542	.128	.089	.747	.573	.137	.038

feces analyses—Continued.

SUBJECT No. 5 (E. J. C.)—PERIOD 10.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Fehling's sol.=100).	Weight.		Water.	Nitrogen.	Ether extract.	
Gms.	Gms.	Gms.		Moist.	Dry.				
1.77	9.00	2.08	20	Total for period.....	1,209	281.46	Per ct.	Gms.	Gms.
2.09	12.63	1.61	40	Mean for day.....	121	28.15	76.72	19.59	58.39
1.95	15.08	1.87	70	BALANCES FOR PERIOD.					
1.85	11.22	1.90	60	Nitrogen in—	Ether extract in—				
1.78	13.10	1.38	60	Food, grams.....	115.57	Food, grams.....	1,451.87		
1.51	10.29	.85	60	Urine, grams.....	85.17	Feces, grams.....	58.39		
1.48	9.70	1.05	70	Feces, grams.....	19.59				
2.09	14.15	1.70	60		104.76				+1,393.48
2.98	15.20	2.68	50		+10.81				
1.79	11.22	1.79	60	Nitrogen utilization, 83.05 per cent; fat utilization, 95.98 per cent.					
19.29	121.59	16.91	.....					
1.93	12.16	1.69	55						

SUBJECT No. 5 (E. J. C.)—PERIOD 11.

1.94	9.59	1.84	60	Total for period.....	1,006	201.50	.....	15.39	43.56
1.38	13.10	.99	70	Mean for day.....	101	20.15	79.97	1.54	4.36
1.32	8.65	1.74	90	BALANCES FOR PERIOD.					
1.70	7.25	1.50	50	Nitrogen in—	Ether extract in—				
1.66	7.48	1.38	80	Food, grams.....	104.53	Food, grams.....	1,354.25		
1.60	4.21	1.76	60	Urine, grams.....	80.07	Feces, grams.....	43.56		
1.66	8.42	1.15	60	Feces, grams.....	15.39				
2.11	14.97	1.18	70		95.46				+1,310.69
1.58	13.33	1.62	60		+9.07				
1.56	8.18	1.60	70	Nitrogen utilization, 85.27 per cent; fat utilization, 96.78 per cent.					
16.41	95.18	14.76	.....					
1.64	9.52	1.48	67						

SUBJECT No. 5 (E. J. C.)—PERIOD 12.

1.65	7.48	0.88	70	Total for period.....	751	211.56	.....	14.64	38.83
.93	12.04	.48	50	Mean for day.....	75	21.16	71.83	1.46	3.88
1.74	10.06	1.08	60	BALANCES FOR PERIOD.					
1.76	12.63	1.10	50	Nitrogen in—	Ether extract in—				
1.40	11.69	.26	40	Food, grams.....	117.63	Food, grams.....	1,575.81		
1.51	5.38	1.05	70	Urine, grams.....	69.72	Feces, grams.....	38.83		
1.00	10.06	.23	60	Feces, grams.....	14.64				
1.84	11.58	1.86	40		84.36				+1,536.98
1.88	12.86	1.20	70		+33.27				
1.82	14.03	.98	70	Nitrogen utilization, 87.55 per cent; fat utilization, 97.54 per cent.					
15.53	107.81	9.12	.....					
1.55	10.78	.91	58						

SUBJECT No. 6 (P. L. N.)—PERIOD 1.

1.48	13.56	1.20	5	Total for period.....	1,487	226.02	.....	14.72	48.33
1.86	11.58	1.76	30	Mean for day.....	149	22.60	84.80	1.47	4.83
2.00	13.10	1.75	30	BALANCES FOR PERIOD.					
2.06	14.15	1.71	25	Nitrogen in—	Ether extract in—				
1.85	16.72	1.77	20	Food, grams.....	121.64	Food, grams.....	1,366.15		
1.66	19.88	1.70	10	Urine, grams.....	108.88	Feces, grams.....	48.33		
1.88	19.64	1.50	20	Feces, grams.....	14.72				
2.05	16.60	1.60	10		123.60				+1,317.82
1.72	15.08	1.84	30		—1.96				
1.87	14.85	1.36	15	Nitrogen utilization, 87.90 per cent; fat utilization, 96.47 per cent.					
18.43	155.16	16.19	.....					
1.84	15.52	1.62	20						

SUBJECT No. 6 (P. L. N.)—PERIOD 2.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total	Inorganic.	Neutral.	Ethereal.
	<i>c. c.</i>		<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>	<i>Gms.</i>
May 11	1,080	1.023	10.48	8.60	0.669	0.542	0.130	0.095	0.775	0.568	0.167	0.040
12	930	1.028	9.37	7.69	.635	.500	.105	.098	.633	.470	.129	.034
13	1,150	1.025	10.60	8.75	.595	.495	.120	.125	.687	.514	.132	.041
14	1,140	1.026	9.82	7.81	.668	.605	.133	.093	.688	.526	.117	.045
15	1,060	1.025	9.53	7.80	.577	.488	.131	.087	.633	.473	.123	.037
16	970	1.026	9.39	7.53	.640	.513	.130	.045	.719	.540	.128	.051
17	1,040	1.024	9.67	7.90	.562	.491	.106	.075	.641	.464	.141	.036
18	940	1.027	9.43	7.70	.637	.576	.112	.084	.703	.552	.136	.015
19	900	1.028	8.92	7.13	.677	.582	.111	.067	.654	.486	.133	.035
20	990	1.028	10.10	8.44	.606	.466	.136	.058	.712	.537	.136	.039
Total..	10,200	.....	97.31	79.35	6.266	5.258	1.214	.827	6.845	5.130	1.342	.373
Mean..	1,020	1.026	9.73	7.94	.627	.526	.121	.083	.685	.513	.134	.037

SUBJECT No. 6 (P. L. N.)—PERIOD 3.

May 21	1,040	1.026	10.12	8.40	0.637	0.488	0.130	0.070	0.657	0.478	0.137	0.042
22	1,110	1.023	9.03	7.39	.598	.488	.122	.043	.578	.420	.113	.045
23	1,010	1.026	8.68	7.02	.569	.540	.123	.041	.623	.480	.123	.020
24	1,020	1.031	10.38	8.64	.648	.632	.145	.053	.733	.563	.133	.037
25	1,140	1.028	10.70	8.94	.612	.560	.142	.087	.739	.564	.129	.046
26	940	1.029	10.21	8.47	.593	.502	.150	.065	.693	.523	.116	.054
27	1,010	1.029	10.37	8.72	.547	.466	.142	.073	.710	.545	.106	.059
28	980	1.028	10.56	8.71	.624	.587	.133	.073	.771	.588	.124	.059
29	1,050	1.026	10.42	8.72	.609	.500	.145	.066	.717	.514	.152	.051
30	1,060	1.027	9.65	7.79	.641	.560	.151	.063	.667	.495	.138	.034
Total..	10,360	.....	100.12	82.80	6.078	5.323	1.383	.634	6.888	5.170	1.271	.447
Mean..	1,036	1.027	10.01	8.28	.608	.532	.138	.063	.689	.517	.127	.045

SUBJECT No. 6 (P. L. N.)—PERIOD 4.

May 31	910	1.030	9.17	7.37	0.619	0.573	0.123	0.065	0.629	0.469	0.126	0.034
June 1	970	1.028	10.18	8.43	.553	.544	.133	.083	.715	.522	.129	.064
2	960	1.025	9.43	7.87	.574	.535	.123	.084	.632	.464	.126	.042
3	950	1.028	10.46	8.66	.590	.571	.155	.076	.765	.592	.130	.043
4	1,000	1.029	11.14	9.19	.633	.535	.170	.082	.778	.574	.139	.065
5	860	1.028	9.79	8.01	.602	.464	.130	.075	.636	.456	.126	.054
6	780	1.026	6.89	5.46	.374	.340	.092	.070	.430	.303	.098	.029
7	1,360	1.023	11.66	9.36	.722	.659	.170	.107	.766	.560	.146	.060
8	1,020	1.027	8.92	7.05	.602	.551	.122	.087	.737	.564	.129	.044
9	940	1.029	10.18	8.38	.594	.473	.139	.095	.701	.529	.127	.045
Total..	9,750	.....	97.82	79.78	5.863	5.245	1.357	.824	6.789	5.033	1.276	.480
Mean..	975	1.027	9.78	7.98	.586	.525	.136	.082	.679	.503	.128	.048

SUBJECT No. 6 (P. L. N.)—PERIOD 5.

June 10	900	1.029	10.74	8.80	0.552	0.542	0.169	0.080	0.842	0.650	0.150	0.042
11	930	1.029	10.77	8.89	.607	.620	.164	.074	.742	.576	.111	.055
12	860	1.030	9.02	7.28	.607	.508	.130	.079	.628	.469	.107	.052
13	860	1.030	8.86	7.21	.628	.450	.142	.088	.635	.467	.117	.051
14	850	1.030	9.17	7.50	.627	.488	.161	.070	.657	.488	.124	.045
15	800	1.032	8.25	6.72	.607	.504	.147	.061	.617	.473	.104	.040
16	740	1.032	8.26	6.54	.592	.549	.134	.075	.645	.486	.103	.056
17	740	1.033	8.26	6.45	.595	.531	.131	.099	.635	.477	.121	.037
18	870	1.028	8.74	6.98	.534	.578	.136	.079	.624	.474	.125	.025
19	850	1.029	8.07	6.47	.584	.571	.126	.075	.587	.430	.121	.036
Total..	8,400	.....	90.14	72.84	5.933	5.341	1.440	.780	6.612	4.990	1.183	.439
Mean..	840	1.030	9.01	7.28	.593	.534	.144	.078	.661	.499	.118	.044

feces analyses—Continued.

SUBJECT No. 6 (P. L. N.)—PERIOD 2.

Urine—Continued.				Feces.									
Phosphoric acid as P ₂ O ₅ .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Foh- ling's sol.=100).		Weight.								
					Moist.	Dry.	Water.	Nitrogen.	Ether extract.				
Gms.	Gms.	Gms.			Gms.	Gms.	Per ct.	Gms.	Gms.				
1.74	16.37	1.43	20	Total for period.....	1,532	296.78	.....	18.14	67.05			
1.46	16.13	1.29	10	Mean for day.....	183	29.68	83.80	1.81	6.71				
1.80	16.02	1.12	20	BALANCES FOR PERIOD.									
1.74	17.54	1.68	25	Nitrogen in—	Ether extract in—								
1.97	16.72	1.20	10	Food, grams.....	120.26	Food, grams.....							
1.87	16.37	1.25	20	Urine, grams.....	97.31	Feces, grams.....							
1.75	14.03	1.22	20	Feces, grams.....	18.14								
2.08	14.97	1.77	10		115.45								
1.62	16.95	1.71	5		+4.81								
1.98	17.07	1.16	20	Nitrogen utilization, 84.92 per cent; fat utilization, 95.23 per cent.									
18.01	162.17	13.83	.....									
1.80	16.22	1.38	16										

SUBJECT No. 6 (P. L. N.)—PERIOD 3.

1.75	16.37	1.32	20	Total for period.....	1,311	223.66	.....	13.63	42.08
1.77	16.84	1.27	10	Mean for day.....	131	22.37	82.94	1.36	4.21
1.79	18.36	1.77	Trace.						
2.16	18.36	2.24	20						
2.36	19.64	2.11	Trace.						
1.98	15.20	1.63	20	BALANCES FOR PERIOD.					
1.86	17.42	1.42	20	Nitrogen in—	Ether extract in—				
1.96	17.30	1.91	20	Food, grams.....	119.38	Food, grams..... 1,350.93			
2.08	16.84	1.68	25	Urine, grams..... 100.12	Feces, grams..... 42.08				
1.82	18.82	1.70	10	Feces, grams..... 13.63					
				113.75	+1,308.85				
19.53	175.15	17.05	.....	+5.63					
1.95	17.52	1.71	15	Nitrogen utilization, 88.58 per cent; fat utilization, 96.88 per cent.					

SUBJECT No. 6 (P. L. N.)—PERIOD 4.

1.85	15.43	1.72	10	Total for period.....	1,273	229.90	.....	14.77	16.87
1.92	16.37	1.60	20	Mean for day.....	127	22.99	81.94	1.48	6.19
1.73	14.15	1.68	30	BALANCES FOR PERIOD.					
1.96	13.21	1.85	30	Nitrogen in—	Ether extract in—				
2.00	17.54	1.51	30	Food, grams.....	116.66	Food, grams.....	1,298.76		
1.95	14.62	1.28	30	Urine, grams.....	97.82	Feces, grams.....	61.87		
1.15	12.51	1.01	10	Feces, grams.....	14.77				
2.28	18.71	1.64	10		112.59				
1.61	17.54	1.65	30						
1.72	15.90	1.48	20				+1,236.89		
18.17	155.98	15.42	.....		+4.07				
1.82	15.60	1.54	22	Nitrogen utilization, 87.34 per cent; fat utilization, 95.23 per cent.					

SUBJECT No. 6 (P. L. N.)—PERIOD 5.

1.92	14.03	1.81	30	Total for period.....	1,709	258.23	.....	17.77	59.47
1.95	16.37	2.08	20	Mean for day.....	171	25.82	84.89	1.78	5.95
1.59	17.07	1.82	20	BALANCES FOR PERIOD.					
1.70	17.07	1.53	20						
1.80	16.95	1.78	20						
1.58	17.30	1.62	30	Nitrogen in—	Ether extract in—				
1.76	15.55	2.01	30	Food, grams.....	116.42	Food, grams.....			
1.64	12.74	1.80	30	Urine, grams.....	90.14	Feces, grams.....			
1.67	16.95	2.02	30	Feces, grams.....	17.77				
1.93	16.95	2.24	20	—	107.91	+1,321.83			
17.57	160.98	18.71	.....	•	+8.51				
1.76	16.10	1.87	25	Nitrogen utilization, 84.74 per cent; fat utilization, 95.69 per cent.					

SUBJECT No. 6 (P. L. N.)—PERIOD 6.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total.	Inorganic.	Neutral.	Ethereal.
	c. c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
June 20	740	1.030	7.24	5.57	0.547	0.482	0.130	0.075	0.536	0.381	0.122	0.033
21	1,200	1.025	9.78	7.82	.655	.567	.183	.088	.696	.523	.128	.045
22	900	1.027	8.47	6.77	.606	.497	.139	.077	.662	.512	.122	.028
23	850	1.029	9.05	7.20	.617	.511	.158	.089	.673	.496	.136	.041
24	940	1.029	9.69	7.91	.545	.506	.151	.091	.755	.565	.135	.055
25	1,040	1.027	10.38	8.51	.550	.540	.161	.106	.746	.560	.148	.038
26	1,000	1.027	8.50	6.87	.640	.448	.141	.099	.547	.374	.125	.048
27	720	1.027	6.76	5.07	.608	.538	.079	.134	.489	.329	.111	.049
28	1,160	1.026	9.79	7.84	.656	.578	.164	.120	.732	.542	.144	.046
29	840	1.029	8.77	7.17	.576	.493	.161	.086	.659	.486	.135	.038
Total..	9,390	.....	88.43	70.73	6.000	5.160	1.467	.965	6.495	4.768	1.306	.421
Mean..	939	1.028	8.84	7.07	.600	.516	.147	.097	.650	.477	.131	.042

SUBJECT No. 6 (P. L. N.)—PERIOD 7.

June 30	600	1.032	6.81	5.38	0.484	0.430	0.092	0.101	0.491	0.364	0.100	0.027
July 1	960	1.029	11.22	8.92	.767	.699	.180	.142	.876	.670	.150	.056
2	870	1.029	9.75	7.86	.561	.668	.115	.139	.731	.530	.138	.063
3	860	1.028	8.89	7.41	.532	.504	.133	.099	.551	.393	.110	.048
4	870	1.024	8.64	7.13	.506	.573	.139	.109	.631	.447	.134	.050
5	870	1.029	8.80	7.18	.505	.506	.147	.095	.625	.465	.127	.033
6	840	1.030	9.02	7.25	.527	.576	.125	.110	.635	.469	.122	.044
7	770	1.030	9.11	7.31	.523	.461	.148	.083	.643	.491	.119	.033
8	660	1.029	8.44	6.80	.502	.511	.130	.077	.597	.453	.117	.027
9	840	1.028	8.92	7.21	.557	.551	.130	.105	.621	.451	.128	.042
Total..	8,140	.....	89.60	72.45	5.464	5.479	1.339	1.060	6.401	4.733	1.245	.423
Mean..	814	1.029	8.96	7.25	.546	.548	.134	.106	.640	.473	.125	.042

SUBJECT No. 6 (P. L. N.)—PERIOD 8.

July 10	760	1.029	8.52	6.83	0.521	0.448	0.139	0.087	0.625	0.455	0.121	0.049
11	640	1.030	8.02	6.41	.485	.495	.136	.075	.599	.452	.093	.054
12	620	1.033	8.33	6.46	.544	.556	.130	.128	.642	.449	.127	.066
13	800	1.029	9.58	7.93	.506	.571	.141	.115	.650	.482	.102	.066
14	800	1.030	8.83	6.92	.550	.618	.139	.116	.652	.456	.139	.057
15	690	1.032	7.39	6.01	.424	.475	.133	.066	.510	.365	.100	.045
16	810	1.029	8.77	7.06	.507	.603	.208	.086	.562	.404	.116	.042
17	930	1.029	9.12	7.49	.480	.643	.206	.089	.614	.428	.138	.048
18	900	1.029	8.16	6.30	.544	.587	.183	.087	.567	.396	.148	.023
19	770	1.029	7.97	6.21	.508	.571	.200	.052	.666	.501	.132	.033
Total..	7,720	.....	84.69	67.62	5.069	5.567	1.615	.901	6.087	4.388	1.216	.483
Mean..	772	1.030	8.47	6.76	.507	.557	.162	.090	.609	.439	.122	.048

SUBJECT No. 6 (P. L. N.)—PERIOD 9.

July 20	580	1.032	7.80	5.99	0.548	0.690	0.192	0.077	0.544	0.396	0.115	0.033
21	600	1.032	8.42	6.82	.554	.558	.155	.092	.558	.387	.118	.053
22	660	1.030	8.11	6.44	.533	.484	.153	.063	.586	.424	.118	.044
23	680	1.029	7.79	6.16	.519	.488	.133	.096	.535	.475	.128	.032
24	820	1.028	8.44	6.91	.499	.495	.123	.111	.654	.489	.134	.031
25	810	1.029	7.94	6.43	.527	.500	.106	.098	.577	.412	.111	.054
26	690	1.030	7.88	6.22	.495	.473	.112	.111	.622	.442	.113	.067
27	750	1.029	9.03	7.37	.532	.405	.162	.067	.634	.468	.135	.031
28	860	1.028	8.50	6.88	.484	.432	.142	.084	.637	.448	.158	.031
29	730	1.032	7.70	6.21	.456	.435	.144	.067	.644	.465	.135	.044
Total..	7,180	.....	81.61	65.43	5.147	4.960	1.422	.866	6.091	4.406	1.265	.420
Mean..	718	1.030	8.16	6.54	.515	.496	.142	.087	.609	.441	.127	.042

feces analyses—Continued.

SUBJECT No. 6 (P. L. N.)—PERIOD 6.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indican (Feh- ling's sol.=100).		Weight.				
Gms.	Gms.	Gms.			Moist.	Dry.	Water.	Nitrogen.	Ether extract.
1.69	15.20	1.80	Trace.	Total for period.....	1,591	242.63	Per ct.	15.59	51.22
2.42	22.10	1.69	30	Mean for day.....	159	24.26	84.75	1.56	5.12
1.86	17.77	1.78	20						
2.09	17.07	1.70	30	BALANCES FOR PERIOD.					
1.84	20.11	1.83	20	Nitrogen in—	Ether extract in—				
2.02	21.16	1.83	10	Food, grams.....	118.03	Food, grams.....		1,390.53	
1.67	18.94	1.41	10	Urine, grams.....	88.43	Feces, grams.....		51.23	
1.34	14.26	1.69	20	Feces, grams.....	15.59				
2.09	23.38	1.63	25		104.02				+1,339.30
1.76	17.07	1.61	10						
18.78	187.06	16.97	.....		+ 14.01				
1.88	18.71	1.70	18	Nitrogen utilization, 86.79 per cent; fat utilization, 96.31 per cent.					

SUBJECT No. 6 (P. L. N.)—PERIOD 7.

1.37	14.15	1.66	10	Total for period.....	1,975	273.93	.....	18.76	54.31
2.22	17.42	2.32	10	Mean for day.....	198	27.39	86.13	1.88	5.43
1.90	18.36	2.16	20						
2.06	21.05	1.68	20	BALANCES FOR PERIOD.					
2.00	16.72	1.96	10	Nitrogen in—	Ether extract in—				
2.08	16.72	1.72	30	Food, grams.....	114.39	Food, grams.....		1,414.10	
1.79	17.30	1.89	30	Urine, grams.....	89.60	Feces, grams.....		54.31	
1.81	15.20	1.61	20	Feces, grams.....	18.76				
1.49	11.69	1.80	20		108.36				+1,359.79
1.75	15.90	2.02	20						
18.47	164.51	18.82	.....		+6.03				
1.85	16.45	1.88	20	Nitrogen utilization, 83.60 per cent; fat utilization, 96.16 per cent.					

SUBJECT No. 6 (P. L. N.)—PERIOD 8.

1.68	14.15	1.51	30	Total for period.....	1,783	203.08	.....	15.16	50.10
1.83	12.74	1.76	50	Mean for day.....	178	20.31	88.61	1.52	5.01
1.73	11.81	1.89	60						
1.95	15.90	1.81	60	BALANCES FOR PERIOD.					
1.70	16.49	1.81	70	Nitrogen in—	Ether extract in—				
1.68	14.62	1.41	40	Food, grams.....	114.91	Food, grams.....		1,397.43	
1.85	16.60	1.55	10	Urine, grams.....	84.69	Feces, grams.....		50.10	
2.30	15.90	2.14	40	Feces, grams.....	15.16				
1.68	18.24	1.43	20		99.85				+1,347.33
1.46	16.02	1.31	10						
17.86	152.47	16.62	.....		+15.06				
1.79	15.25	1.66	39	Nitrogen utilization, 86.81 per cent; fat utilization, 96.41 per cent.					

SUBJECT No. 6 (P. L. N.)—PERIOD 9.

2.22	11.69	2.29	20	Total for period.....	1,318	239.22	.....	16.21	56.02
1.91	9.70	1.69	40	Mean for day.....	132	23.92	81.85	1.62	5.60
1.72	11.81	1.43	20						
1.36	13.10	1.26	20	BALANCES FOR PERIOD.					
1.87	16.13	1.91	20	Nitrogen in—	Ether extract in—				
1.76	14.03	1.99	10	Food, grams.....	99.80	Food, grams.....		1,260.10	
1.90	12.74	1.94	10	Urine, grams.....	81.61	Feces, grams.....		56.02	
1.96	13.21	1.50	20	Feces, grams.....	16.21				
1.76	14.50	1.45	20		97.82				+1,204.08
1.98	13.45	2.10	10						
18.44	130.36	17.56	.....		+1.98				
1.84	13.04	1.76	19	Nitrogen utilization, 83.76 per cent; fat utilization, 95.56 per cent.					

Quantitative urine and

SUBJECT No. 6 (P. L. N.)—PERIOD 10.

Date.	Urine.											
	Volume.	Specific gravity.	Nitrogen.						Sulphur.			
			Total.	Urea.	Creatinine.	Ammonia.	Uric acid.	Purine.	Total	Inorganic.	Neutral.	Ethereal.
	c.c.		Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.	Gms.
July 30	710	1.029	10.34	8.69	0.560	0.598	0.180	0.070	0.817	0.619	0.136	0.062
31	810	1.028	9.81	8.27	.491	.571	.155	.071	.678	.489	.126	.063
Aug. 1	680	1.028	9.58	7.70	.504	.715	.126	.126	.677	.475	.145	.057
2	820	1.028	8.77	6.94	.482	.659	.126	.117	.562	.396	.103	.063
3	750	1.029	7.85	6.00	.502	.636	.101	.110	.614	.455	.119	.040
4	660	1.029	8.62	6.43	.504	.497	.131	.087	.608	.418	.138	.052
5	710	1.028	7.48	5.91	.501	.484	.106	.123	.587	.406	.140	.041
6	1,090	1.028	10.00	8.15	.578	.482	.170	.089	.696	.492	.154	.050
7	820	1.030	8.99	7.20	.512	.544	.141	.095	.651	.453	.164	.034
8	700	1.030	7.77	6.09	.510	.526	.122	.098	.588	.433	.125	.030
Total..	7,750	.....	88.61	71.38	5.144	5.712	1.358	.986	6.478	4.636	1.350	.492
Mean..	775	1.029	8.86	7.14	.514	.571	.136	.099	.648	.464	.135	.049

SUBJECT No. 6 (P. L. N.)—PERIOD 11.

Aug. 9	660	1.032	8.05	6.31	0.511	0.531	0.073	0.170	0.607	0.446	0.140	0.021
10	630	1.028	8.42	6.60	.510	.511	.105	.108	.631	.432	.120	.079
11	1,120	1.021	8.84	7.26	.528	.473	.128	.073	.692	.482	.159	.051
12	740	1.028	7.51	5.83	.516	.508	.128	.064	.735	.559	.136	.040
13	640	1.032	7.97	6.51	.520	.500	.137	.061	.736	.555	.136	.045
14	690	1.030	9.23	7.52	.497	.477	.114	.105	.680	.512	.122	.046
15	710	1.029	8.14	6.52	.532	.533	.092	.095	.656	.473	.136	.047
16	780	1.029	8.71	7.01	.502	.479	.130	.095	.706	.510	.142	.054
17	860	1.029	8.97	7.30	.508	.524	.128	.090	.745	.556	.127	.062
18	820	1.031	8.30	6.75	.542	.417	.139	.077	.712	.522	.141	.049
Total..	7,650	.....	84.14	67.61	5.166	4.953	1.174	.938	6.900	5.047	1.359	.494
Mean..	765	1.029	8.41	6.76	.517	.495	.117	.094	.690	.505	.136	.049

SUBJECT No. 6 (P. L. N.)—PERIOD 12.

Aug. 19	840	1.031	7.90	6.40	0.504	0.437	0.133	0.073	0.608	0.424	0.121	0.063
20	880	1.026	7.83	6.37	.564	.444	.100	.109	.589	.410	.130	.049
21	800	1.028	7.98	6.50	.497	.417	.073	.167	.747	.560	.132	.055
22	550	1.034	7.24	5.68	.500	.405	.079	.140	.571	.420	.096	.055
23	540	1.031	7.01	5.48	.498	.410	.036	.163	.493	.343	.103	.047
24	600	1.032	7.11	5.61	.541	.394	.111	.129	.566	.388	.119	.059
25	770	1.030	8.98	7.38	.532	.408	.170	.105	.628	.456	.130	.042
26	1,060	1.024	9.30	7.50	.512	.513	.155	.115	.678	.498	.132	.048
27	890	1.027	8.67	7.14	.553	.486	.161	.092	.659	.479	.142	.038
28	850	1.025	8.39	6.74	.481	.542	.106	.132	.660	.506	.118	.036
Total..	7,780	.....	80.41	64.80	5.182	4.456	1.124	1.225	6.199	4.484	1.223	.492
Mean..	778	1.029	8.04	6.48	.518	.446	.112	.123	.620	.448	.122	.049

feces analyses—Continued.

SUBJECT No. 6 (P. L. N.)—PERIOD 10.

Urine—Continued.				Feces.					
Phosphoric acid as P_2O_5 .	Chlorides as NaCl.	Total acidity as oxalic acid.	Indian (Feh- ling's sol.=100).		Weight.				
					Moist.	Dry.	Water.	Nitrogen.	Ether extract.
Gms.	Gms.	Gms.			Gms.	Gms.	Per ct.	Gms.	Gms.
2.08	10.87	2.02	60	Total for period.....	1.466	264.47	.....	18.33	48.67
1.88	13.10	1.68	50	Mean for day.....	147	26.45	81.96	1.83	4.87
2.07	10.52	2.24	70	BALANCES FOR PERIOD.					
1.68	15.08	1.64	60	Nitrogen in—	Ether extract in—				
1.58	15.20	1.80	40	Food, grams.....	109.24	Food, grams.....		1,325.54	
1.79	10.52	1.47	50	Urine, grams.....	88.61	Feces, grams.....		48.67	
1.50	11.81	1.33	50	Feces, grams.....	18.33				
1.88	19.88	.90	40		106.94				+1,276.87
1.60	16.37	1.49	30						
1.47	13.10	1.46	30						
17.53	136.45	16.03	.....			+2.30			
1.75	13.65	1.60	48	Nitrogen utilization, 83.22 per cent; fat utilization, 96.33 per cent.					

SUBJECT No. 6 (P. L. N.)—PERIOD 11.

1.70	12.86	1.78	30	Total for period.....	1,732	245.25	.....	19.57	46.76
1.82	11.93	1.50	30	Mean for day.....	173	24.53	85.84	1.96	4.68
1.70	15.67	1.00	30	BALANCES FOR PERIOD.					
1.70	11.69	1.61	20	Nitrogen in—	Ether extract in—				
1.73	11.93	1.95	30	Food, grams.....	109.04	Food, grams.....		1,344.37	
1.90	10.06	1.39	30	Urine, grams.....	84.14	Feces, grams.....		46.76	
1.70	12.63	1.72	50	Feces, grams.....	19.57				
1.85	14.26	1.58	70		103.71				+1,297.61
2.11	16.25	1.91	50						
1.75	13.33	1.24	70						
17.96	130.61	15.68	.....			+5.33			
1.80	13.06	1.57	41	Nitrogen utilization, 82.05 per cent; fat utilization, 96.52 per cent.					

SUBJECT No. 6 (P. L. N.)—PERIOD 12.

1.56	15.08	1.00	60	Total for period.....	1,561	241.96	.....	17.33	48.23
1.47	13.68	.74	50	Mean for day.....	156	24.20	84.50	1.73	4.82
1.89	14.50	1.61	30	BALANCES FOR PERIOD.					
1.53	9.94	1.39	50	Nitrogen in—	Ether extract in—				
1.51	8.42	1.60	20	Food, grams.....	104.12	Food, grams.....		1,324.72	
1.78	10.52	1.58	50	Urine, grams.....	80.41	Feces, grams.....		48.23	
1.96	12.28	1.37	50	Feces, grams.....	17.33				
2.05	16.02	1.62	10		97.74				+1,276.49
1.72	14.03	1.09	50						
1.80	12.16	1.60	20						
17.27	126.63	13.60	.....			+6.38			
1.73	12.66	1.36	39	Nitrogen utilization, 83.36 per cent; fat utilization, 96.36 per cent.					

QUALITATIVE AND MICROSCOPIC EXAMINATION OF URINE.

The scope of the examination can be learned from the urine chart. Examinations were made twice a period of 10 days, excepting when it was believed necessary to do so more frequently.

The results in subjects Nos. 1, 3, 4, and 6 were within the normal. In the earliest examinations, in the fore periods, subject No. 2 had albumin and acetone in the urine, and these findings were duplicated practically in every day's urine. This man's urine was examined microscopically and for albumin and acetone each day after these substances were found. It should be noted that this subject, previous to his coming on the squad, and for about a year, ate only two meals a day. Remembering that no pathologic constituents were found microscopically in the urine and that the subjects were fed a very liberal amount of food, the presence of albumin at least might be related to an increase of food in the man.

Subject No. 2B showed acetone once, on August 4. Otherwise the results were those of a normal urine.

In subject No. 5's urine, a single red blood corpuscle and a small number of white blood corpuscles were found on July 8. These phenomena persisted for a short time, and on July 13 albumin was found, and this substance was present continuously throughout the time of observation. Just exactly what was the underlying pathologic condition in the kidneys can not be determined, but in our judgment it was a slight degeneration of toxic origin, and the toxic agent was copper, perhaps indirectly.

The results of this table of qualitative urine examinations were obtained by or under the direction of Dr. W. H. Buhlig, the physician in charge. Because of the very great importance of the occurrence of albumin an independent set of tests was made by myself with reference to this one substance through the latter half of the investigation. As these findings coincided exactly with those of Dr. Buhlig, no separate record will be given for them. These tests were made daily and were sufficiently extended to fully confirm the findings as reported.

Qualitative and microscopic examination of urine.

SUBJECT No. 1.

Peri- od.	Date.	Indolacetic acid.	Aromatic oxyacids.	FeCl ₃ test.	Glycuro- ates.	Sugar.	Albumin.	Acetone.	Phenol.	Color.	Reaction.	Microscopic.
1	May 2	.....	.....	.....	.....	Negative..	Negative..	Negative..	Trace.....	Light amber..	Acid.....	Few epithelial cells; 3 to 4 pus cells per one-sixth field; few mucous shreds; occasional calcium oxalate.
1	May 3	Negative..	Negative..	Negative..	Negative..	Negative..	Negative..	Negative..	None.....	Light amber..	Acid.....	2 w. b. c. per one-sixth field; occasional epithelial cell; occasional amorphous urates.
1	May 6	Slight.....	Trace.....	do.....	do.....	Negative..	Negative..	Negative..	Trace.....	do.....	Slightly alkaline.	Occasional epithelial cell; 2 w. b. c. per one-sixth field; occasional calcium oxalates.
2	May 12	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Trace.....	do.....	do.....	Occasional epithelial cell; 2 w. b. c. per one-sixth field; occasional calcium oxalates.
2	May 17	Trace.....	do.....	do.....	do.....	do.....	do.....	do.....	Negative..	Amber.....	Acid.....	Occasional epithelial cell; few amorphous urates; 4 to 5 w. b. c. per one-sixth field.
3	May 22	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Amphoterio..	Few epithelial cells; 2 to 3 w. b. c. per one-sixth field.
3	May 27	do.....	Slight.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	3 to 4 w. b. c. per one-sixth field; occasional epithelial cell; few calcium oxalates and spermatozoa.
4	June 1	Slight.....	do.....	do.....	do.....	do.....	do.....	do.....	Slight.....	do.....	do.....	3 to 4 w. b. c. per one-sixth field; few epithelial cells, mucous shreds, amorphous phosphates, and bacteria.
4	June 6	do.....	Trace.....	do.....	do.....	do.....	do.....	do.....	Trace.....	do.....	do.....	3 to 4 w. b. c. per one-sixth field; few amorphous phosphates; occasional epithelial cell and mucous shreds.
5	June 12	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	3 to 4 w. b. c. per one-sixth field; many amorphous phosphates; occasional epithelial cell and mucous shreds; few bacteria.
5	June 16	do.....	Slight.....	do.....	do.....	do.....	do.....	do.....	Slight.....	do.....	do.....	Occasional epithelial cell and mucous shreds; few amorphous urates and bacteria; 3 to 4 w. b. c. per one-sixth field.
6	June 21	Trace.....	do.....	do.....	do.....	do.....	do.....	do.....	Trace.....	do.....	Slightly acid..	

Qualitative and microscopic examination of urine—Continued.

SUBJECT No. 1—Continued.

Peri- od.	Date.	Indolacetic acid.	Aromatic oxyacids.	FeCl ₃ test.	Glycuro- ates.	Sugar.	Albumin.	Acetone.	Phenol.	Color.	Reaction.	Microscopic.
6	June 26	Negative..	Trace.....	Negative..	Negative..	Negative..	Negative..	Negative..	Trace.....	Amber.....	Amphoteri-...	Few amorphous phosphates and bacteria; 3 to 4 w. b. c. per one-sixth field; occasional epithelial cell, calcium oxalates, and mucous shreds.
7	July 1	do.....	Moderate	do.....	do.....	do.....	do.....	do.....	Slight....	Light amber.	do.....	2 w. b. c. per one-sixth field; many bacteria; few amorphous phosphates; occasional spermatozoa, mucous shreds, and epithelial cells.
7	July 6	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Trace.....	Amber.....	do.....	Many amorphous phosphates and bacteria; 2 to 3 w. b. c. per one-sixth field; occasional epithelial cells and mucous shreds.
8	July 10	do.....	Slight....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Many bacteria, few amorphous urates; 3 to 4 w. b. c. per one-sixth field; occasional mucous shreds and epithelial cells.
8	July 15	do.....	Trace.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Slightly acid..	Many bacteria and spermatozoa; few amorphous phosphates; occasional epithelial cell and mucous shreds; 4 to 5 w. b. c. per one-sixth field.
9	July 20	do.....	Negative..	do.....	do.....	do.....	do.....	do.....	Trace.....	do.....	Amphoteri-...	Few amorphous urates, spermatozoa, and bacteria; occasional epithelial cell and mucous shreds; 5 to 6 w. b. c. per one-sixth field.
9	July 25	do.....	Strong....	do.....	do.....	do.....	do.....	do.....	Slight....	do.....	Slightly acid..	Do.
10	July 31	do.....	Trace.....	do.....	do.....	do.....	do.....	do.....	Trace.....	do.....	do.....	Do.
10	Aug. 1-3	do.....	do.....	do.....	do.....	do.....	Negative daily.	do.....	Trace.....	do.....	do.....	Few amorphous phosphates; occasional epithelial cell and mucous shreds; few bacteria; 3 to 4 w. b. c. per one-sixth field.
10	Aug. 4	Slight....	Trace.....	Negative..	Negative..	Negative..	Negative..	Negative..	Slight....	Amber.....	Amphoteri-...	Do.
10	Aug. 5-8	do.....	do.....	do.....	do.....	do.....	Negative daily.	do.....	do.....	do.....	do.....	Do.

II	Aug. 9	Negative..	Slight....	Negative..	Negative..	Negative..	Negative..	Negative..	Amphoteric..	Many amorphous phosphates and bacteria; few spermatozoa; occasional epithelial cell and mucous shred; 3 to 4 w. b. c. per one-sixth field.
II	Aug. 14	do.	do.	do.	do.	do.	do.	do.	do.	Many amorphous phosphates and bacteria; occasional epithelial cell and mucous shred; 3 to 4 w. b. c. per one-sixth field.
12	Aug. 19	do.	do.	do.	do.	do.	do.	do.	do.	Many amorphous phosphates and bacteria; 3 to 4 w. b. c. per one-sixth field; occasional epithelial cell and mucous shred.
12	Aug. 23	Trace.	Trace.	do.	do.	do.	do.	do.	do.	

SUBJECT No. 2A.

1	May 2	Negative..	Moderate..	Negative..	Negative..	Negative..	Negative..	Negative..	Trace.	Light amber.	Acid	Few epithelial cells; occasional w. b. c.; few mucous shreds.
1	May 6	Slight....	Negative..	do.	do.	do.	do.	do.	None.	do.	Amphoteric..	Field filled with amorphous phosphates; food many calcium phosphates; occasional mucous shred; occasional epithelial cell.
1	May 8	do.	do.	do.	do.	do.	do.	do.	S m a l l amount.	do.	do.	Phosphates and epithelium only; no casts.
1	May 9	do.	do.	do.	do.	do.	do.	do.	Slight.	do.	Acid	Many oxalates; no casts.
1	May 10	do.	do.	do.	do.	do.	do.	do.	Negative.	do.	do.	No casts.
2	May 11	do.	do.	do.	do.	do.	do.	do.	do.	do.	Amphoteric..	Do.
2	May 12	Moderate..	Slight....	Negative..	Negative..	Negative..	Negative..	Considerable.	Negative.	Light amber.	do.	Occasional epithelial cell; few calcium phosphates; occasional w. b. c.; no casts.
2	May 13	do.	do.	do.	do.	do.	do.	Trace.	do.	do.	do.	No casts or other pathologic sediment.
2	May 14	do.	do.	do.	do.	do.	do.	Considerable.	None.	do.	do.	Do.
2	May 15	do.	do.	do.	do.	do.	do.	Slight.	do.	do.	Alkaline.	Do.
2	May 16	do.	do.	do.	do.	do.	do.	Trace.	do.	do.	Acid.	Occasional epithelial cell, calcium oxalate, w. b. c. and urates; many calcium phosphates; no casts.
2	May 17	Trace.	Trace.	Negative..	Negative..	Negative..	Negative..	do.	Negative.	Light amber.	do.	No casts or other pathologic sediment.
2	May 18	do.	do.	do.	do.	do.	do.	Considerable.	do.	do.	Amphoteric..	Do.
2	May 19	do.	do.	do.	do.	do.	do.	Trace.	do.	Light amber.	do.	Do.
2	May 20	do.	do.	do.	do.	do.	do.	do.	do.	Amber.	Acid	Do.
3	May 21	do.	do.	do.	do.	do.	do.	Slight.	Slight.	Light amber.	Amphoteric..	Do.

Qualitative and microscopic examination of urine—Continued.

SUBJECT No. 2A—Continued.

Period.	Date.	Indolacetic acid.	Aromatic oxyacids.	Fe ₂ Cl ₆ test.	Glycuronates.	Sugar.	Albumin.	Acetone.	Phenol.	Color.	Reaction.	Microscopic.
3	May 22	Slight.....	None.....	Negative..	Negative..	Negative..	Slight.....	Slight.....	Negative..	Light amber..	Slightly alkaline.	Few epithelial cells and calcium phosphates; no casts. No casts or other pathologic sediment.
3	May 23	.....	.....	.....	.....	.....	Considerable.	do.....	.....	do.....	Slightly acid..	Do.
3	May 24	.....	.....	.....	.....	.....	Slight.....	do.....	.....	do.....	Amphoteric..	.....
3	May 25	.....	.....	.....	.....	.....	Trace.....	Negative..	.....	.....	.....	.....
3	May 26	.....	.....	.....	.....	.....	do.....	Slight.....	.....	.....	.....	.....
3	May 27	Trace.....	Negative..	Negative..	Negative..	Negative..	Considerable.	do.....	Trace.....	Light amber..	Amphoteric..	Few epithelial cells; occasional w. b. c. and oxalates and calcium phosphates; many amorphous phosphates.
3	May 28	.....	.....	.....	.....	.....	do.....	do.....	.....	.....	do.....	No casts or other pathologic sediment.
3	May 29	.....	.....	.....	.....	.....	do.....	do.....	.....	Amber.....	do.....	Do.
3	May 30	.....	.....	.....	.....	.....	do.....	Trace.....	.....	Light amber..	Alkaline.....	Do.
4	May 31	.....	.....	.....	.....	.....	do.....	Slight.....	.....	do.....	Amphoteric..	Do.
4	June 1	Trace.....	Trace.....	Negative..	Negative..	Negative..	Slight.....	Negative..	Negative..	do.....	do.....	Many calcium and amorphous phosphates; few oxalates and spermatozoa; occasional epithelial cell and mucous shred.
4	June 2	.....	.....	.....	.....	.....	Considerable.	do.....	.....	do.....	Alkaline.....	No casts or other pathologic sediment.
4	June 3	.....	.....	.....	.....	.....	Slight.....	do.....	.....	do.....	do.....	Do.
4	June 4	.....	.....	.....	.....	.....	do.....	do.....	.....	do.....	do.....	Do.
4	June 5	.....	.....	.....	.....	.....	Considerable.	Slight.....	.....	Light amber..	Amphoteric..	.....
4	June 6	Trace.....	Trace.....	Negative..	Negative..	Negative..	do.....	None.....	Trace.....	do.....	Alkaline.....	Few epithelial cells, mucous shreds, and calcium phosphates; many amorphous phosphates.
4	June 7	.....	.....	.....	.....	.....	do.....	Slight.....	.....	do.....	do.....	No pathologic sediment.
4	June 8	.....	.....	.....	.....	.....	Slight.....	Negative..	.....	do.....	do.....	Do.
4	June 9	.....	.....	.....	.....	.....	Considerable.	Slight.....	.....	do.....	Acid.....	Do.
5	June 10	.....	.....	.....	.....	.....	Slight.....	Negative..	.....	do.....	do.....	Do.
5	June 11	.....	.....	.....	.....	.....	do.....	Slight.....	Trace.....	do.....	do.....	Do.
5	June 12	Slight.....	Slight.....	Negative..	Negative..	Negative..	do.....	Negative..	Trace.....	do.....	do.....	Many calcium and amorphous phosphates; few bacteria; occasional epithelial cells and calcium oxalates.

5	June 13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No pathologic sediment.
5	June 14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
5	June 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
5	June 16	Trace	Negative	Negative	Negative	.....	.....	.....	.....	.....	.....	Many calcium phosphates; few amorphous phosphates and bacteria; occasional calcium oxalates and mucous shreds.
5	June 17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No pathologic sediment.
5	June 18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
5	June 19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
5	June 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
6	June 21	Negative	Trace	Negative	None	.....	.....	.....	.....	.....	.....	Many amorphous phosphates; few calcium phosphates and bacteria; occasional epithelial cell and mucous shred; no pathologic sediment.
6	June 22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
6	June 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
6	June 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
6	June 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
6	June 26	Slight	Negative	Negative	Negative	.....	.....	.....	.....	.....	.....	No pathologic sediment.
6	June 27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
6	June 28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
6	June 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
7	June 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
7	July 1	Negative	Slight	Negative	Negative	.....	.....	.....	.....	.....	.....	Few calcium and many amorphous phosphates; many bacteria; occasional calcium oxalate, epithelium, and mucous shred; no casts.
7	July 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No pathologic sediment.
7	July 3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
7	July 4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
7	July 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
7	July 6	Negative	Trace	Negative	Negative	.....	.....	.....	.....	.....	.....	Many calcium phosphates; few amorphous phosphates, oxalates, bacteria, and spermatozoa; occasional epithelial cell and mucous shred; no casts.
7	July 7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No pathologic sediment.
7	July 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
7	July 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.

Qualitative and microscopic examination of urine—Continued.

SUBJECT No. 2B.

Peri- od.	Date.	Indolacetic acid.	Aromatic oxyacids.	Fe ₂ Cl ₆ test.	Glycyrone- ates.	Sugar.	Albumin.	Acetone.	Phenol.	Color.	Reaction.	Microscopic.
9	July 20	Trace.....	Slight.....	Negative..	Negative..	Negative..	Negative..	Negative..	Trace.....	Amber.....	Acid.....	Few amorphous urates and bacteria; occasional epithelial cell, mucous shred, and calcium oxalate.
9	July 25	...do.....	Strong.....	...do.....	...do.....	...do.....	...do.....	...do.....	Slight.....	Light amber..	Slightly acid..	Many amorphous urates; occasional epithelial cell and mucous shred; many bacteria; occasional w. b. c.
10	July 31	Negative..	Trace.....	...do.....	...do.....	...do.....	...do.....	...do.....	...do.....	...do.....	Acid.....	Few amorphous urates, mucous shreds, and bacteria; occasional epithelial cell; many bacteria.
10 10	Aug. 1-3 Aug. 4	Strong....	Strong....	Negative..	Negative..	Negative..	...do.....	Trace....	Negative..	Amber.....	Slightly acid..	Few amorphous urates, bacteria, and spermatozoa; occasional epithelial cell and mucous shred.
10 11	Aug. 5-8 Aug. 9	Strong....	Strong....	Negative..	Negative..	Negative..	...do.....	Negative..	Trace....	Light amber..	Amphoteric...	Few amorphous phosphates, calcium oxalate, and bacteria; occasional epithelial cell and mucous shred.
11	Aug. 14	Negative..	Trace.....	...do.....	...do.....	...do.....	...do.....	Trace....	Negative..	...do.....	...do.....	Few amorphous phosphates, bacteria, and spermatozoa; occasional epithelial cell, mucous shred, and oxalates.
12	Aug. 19	...do.....	Negative..	...do.....	...do.....	...do.....	...do.....	Negative..	...do.....	Amber.....	...do.....	Few amorphous phosphates and bacteria; many spermatozoa; occasional w. b. c., calcium oxalate, mucous shred, and epithelial cell.
12	Aug. 23	...do.....	Slight.....	...do.....	...do.....	...do.....	...do.....	...do.....	Trace....	...do.....	...do.....	Few bacteria; many amorphous phosphates; occasional epithelial cell and mucous shred.

SUBJECT No. 3.

1	May 3	Moderate.	Trace.	Negative.	Negative.	Negative.	Negative.	Trace.	Light amber.	Acid.	Occasional epithelial cell; 1 w. b. c. found; amorphous urates; mucous shreds.
1	May 8	Slight.	Negative.	do.	do.	do.	do.	do.	do.	do.	Occasional w. b. c.; few calcium oxalates; occasional epithelial cell; many amorphous urates.
2	May 13	Trace.	do.	do.	do.	do.	do.	do.	do.	Amphoteric.	Many calcium oxalates; occasional w. b. c.; occasional epithelial cell.
2	May 18	None.	do.	do.	do.	do.	do.	do.	do.	do.	Occasional epithelial cell; calcium phosphate and w. b. c.; few oxalates.
3	May 23	Slight.	do.	do.	do.	do.	do.	Negative.	do.	Slightly acid.	Many amorphous urates; few epithelial cells and spermatozoa; occasional oxalate, calcium phosphate, and w. b. c.
3	May 29	Trace.	Trace.	do.	do.	do.	do.	Trace.	do.	Amphoteric.	Occasional w. b. c. and calcium phosphates; few epithelial cells and mucous shreds.
4	June 2	Slight.	Slight.	do.	do.	do.	do.	Negative.	do.	do.	Few mucous shreds and bacteria; occasional calcium phosphates and oxalates and epithelium; many amorphous phosphates.
4	June 7	Trace.	Trace.	do.	do.	do.	do.	do.	Amber.	Alkaline.	Few calcium and amorphous phosphates, mucous shreds, and bacteria; occasional epithelial cells, w. b. c., and oxalates.
5	June 13	Slight.	Slight.	do.	do.	do.	do.	Trace.	Light amber.	Amphoteric.	Many calcium phosphates; few amorphous phosphates; bacteria, and spermatozoa; occasional calcium oxalates, mucous shreds, and epithelial cells.
5	June 17	do.	do.	do.	do.	do.	do.	Slight.	do.	do.	Many calcium and amorphous phosphates; few calcium oxalates; occasional epithelial cell and mucous shred.
6	June 22	Trace.	Trace.	do.	do.	do.	do.	Negative.	do.	do.	Many amorphous and calcium phosphates; few bacteria and spermatozoa; occasional calcium oxalates and epithelial cells.

Qualitative and microscopic examination of urine—Continued.

SUBJECT No. 3—Continued.

Period.	Date.	Indolacetic acid.	Aromatic oxyacids.	FeCl ₃ test.	Glycuronates.	Sugar.	Albumin.	Acetone.	Phenol.	Color.	Reaction.	Microscopic.
6	June 27	Negative..	Moderate..	Negative..	Negative..	Negative..	Negative..	Negative..	Trace....	Light amber..	Amphoteric...	Many amorphous phosphates and bacteria; few mucous shreds; occasional calcium phosphates and epithelial cells.
7	July 3	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Slight....	do.....	do.....	Many calcium phosphates; few bacteria and spermatozoa; occasional epithelial cell and mucous shred.
7	July 7	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Many calcium phosphate and spermatozoa; few bacteria; occasional calcium oxalates, epithelial cells, and mucous shreds.
8	July 11	Trace....	do.....	do.....	do.....	do.....	do.....	do.....	Trace....	do.....	Slightly acid...	Few amorphous urates; few calcium oxalates and spermatozoa; occasional mucous shred, epithelial cell, and calcium phosphate.
8	July 17	Negative..	Trace....	do.....	do.....	do.....	do.....	do.....	do.....	Amber.....	Amphoteric...	Many spermatozoa; few amorphous and calcium phosphates; occasional epithelial cell and mucous shred.
9	July 22	do.....	Slight....	do.....	do.....	do.....	do.....	do.....	do.....	Light amber..	do.....	Many calcium phosphates and oxalates; few amorphous phosphates and spermatozoa; occasional epithelial cells and mucous shreds.
9	July 26	do.....	Moderate..	do.....	do.....	do.....	do.....	do.....	do.....	Amber.....	Slightly acid..	Few calcium phosphates and bacteria; occasional calcium oxalates, mucous shreds, and epithelial cells.
10 10	July 31 Aug. 1	Negative..	Moderate..	Negative..	Negative..	Negative..	do.....	Negative..	Moderate..	Amber.....	Slightly acid..	Few amorphous urates, bacteria, and spermatozoa and calcium oxalates; occasional epithelial cells and mucous shreds.
10	Aug 24	.....	.....	.....	.....	.....	do.....	.....	.....	.....	.....	.....

10	Aug. 5	Trace.....	Trace.....	Negative..	Negative..	Negative..	do.....	Negative..	Slight.....	Light amber..	Amphoteric...	Many amorphous phosphates; few calcium phosphate and oxalates; few spermatozoa; occasional epithelial cells and mucous shreds.
10	Aug. 6-8	.....	.....	.....	.....	.....	do.....	.....	.....	.....	.....	Many amorphous phosphates; few bacteria and calcium phosphates; occasional oxalates, mucous shreds, and epithelial cells.
11	Aug. 9	.....	.....	.....	.....	.....	do.....	.....	.....	.....	.....
11	Aug. 10	Negative..	Strong.....	Negative..	Negative..	Negative..	do.....	Negative..	Strong.....	Amber.....	Amphoteric...	
11	Aug. 15	do.....	Trace.....	do.....	do.....	do.....	do.....	do.....	Trace.....	Light amber..	do.....	Few amorphous phosphates and spermatozoa; many bacteria; occasional calcium phosphate, calcium oxalate, w. b. c., epithelial cells, and mucous shreds.
12	Aug. 21	do.....	Slight.....	do.....	do.....	do.....	do.....	do.....	Moderate.....	do.....	do.....	Many amorphous phosphates; occasional calcium oxalates, calcium phosphates, epithelial cells, and mucous shreds; few bacteria.
12	Aug. 25	do.....	Trace.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Many amorphous phosphates; occasional calcium phosphates, calcium oxalates, epithelial cells, and mucous shreds.

SUBJECT No. 4.

1	May 3	Negative..	Negative..	Negative..	Negative..	Negative..	Negative..	Negative..	Trace.....	Light amber..	Acid.....	Occasional w. b. c.; few epithelial cells; few mucous shreds.
1	May 8	Moderate..	do.....	do.....	do.....	do.....	do.....	do.....	Negative..	Amber.....	do.....	Occasional epithelial cells; many spermatozoa; occasional w. b. c; many amorphous urates.
2	May 13	Trace.....	do.....	do.....	do.....	do.....	do.....	do.....	Trace.....	Light amber..	Neutral.....	Occasional epithelial cells; few amorphous urates; occasional mucous shreds.
2	May 18	None.....	do.....	do.....	do.....	do.....	do.....	do.....	Negative..	do.....	Acid.....	Occasional epithelial cells and w. b. c.; few amorphous urates.
3	May 23	Trace.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.
3	May 29	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Amber.....	Amphoteric...	Few epithelial cells and mucous shreds; occasional w. b. c.; many spermatozoa.

Qualitative and microscopic examination of urine—Continued.

SUBJECT No. 4—Continued.

Port- od.	Date.	Indolacetic acid.	Aromatic oxyacids.	Fe ₂ Cl ₆ test.	Glycuron- ates.	Sugar.	Albumin.	Acetone.	Phenol.	Color.	Reaction.	Microscopic.
4	June 2	Trace	Trace	Negative	Negative	Negative	Negative	Negative	Negative	Amber	Amphoterie	Few epithelial cells and mucous shreds; many amorphous phosphates and bacteria; occasional calcium phosphates.
4	June 7	do	do	do	do	do	do	do	Slight	do	do	Many amorphous phosphates; few mucous shreds; occasional epithelial cells, w. b. c., spermatozoa, and oxalates.
5	June 13	Negative	do	do	do	do	do	do	Negative	Light amber	Slightly alkaline.	Few amorphous phosphates, many spermatozoa; occasional epithelial cells and mucous shreds.
5	June 17	Slight	do	do	do	do	do	do	Trace	Amber	Amphoterie	Few bacteria, spermatozoa, and amorphous phosphates; occasional epithelial cells and mucous shreds.
6	June 22	Trace	do	do	do	do	do	do	do	do	do	Few amorphous phosphates; bacteria, mucous shreds; many spermatozoa; occasional epithelial cells and w. b. c.
6	June 27	Negative	do	do	do	do	do	do	do	Light amber	do	Few amorphous phosphates; many bacteria; occasional epithelial cells and mucous shreds.
7	July 3	do	do	do	do	do	do	do	Trace	do	Acid	Few amorphous urates; occasional epithelial cells and mucous shreds.
7	July 7	do	Slight	do	do	do	do	do	do	Amber	Amphoterie	Many amorphous phosphates; few bacteria; occasional epithelial cells and mucous shreds.
8	July 11	do	do	do	do	do	do	do	do	do	Slightly acid	Few amorphous urates and spermatozoa; occasional epithelial cells and mucous shreds.
8	July 17	do	Trace	do	do	do	do	do	do	do	Amphoterie	Few calcium and amorphous phosphates; many spermatozoa and bacteria; occasional oxalates, w. b. c.,

9	July 22	do.	Slight	do.	do.	do.	do.	do.	Slight	do.	do.	epithelial cells, and mucous shreds. Many amorphous phosphates; few bacteria; occasional epithelial cells and mucous shreds. Few amorphous urates; occasional oxalates, mucous shreds, and epithelial cells. Few amorphous urates and uric-acid crystals; few bacteria; occasional epithelial cells and mucous shreds.
9	July 26	do.	Trace	do.	do.	do.	do.	do.	Negative.	do.	do.	Slightly acid.
10	July 31	do.	Negative.	Negative.	do.	do.	do.	do.	Slight.	Amber	do.	Slightly acid.
10	Aug. 2-4	do.	do.	do.	do.	do.	do.	do.	Trace	Amber	do.	Amphoteric.
10	Aug. 5	do.	Slight	do.	do.	do.	do.	do.	Trace	Amber	do.	Amphoteric.
10	Aug. 6-8	do.	do.	do.	do.	do.	do.	do.	Trace	Amber	do.	Amphoteric.
11	Aug. 9	do.	Trace	do.	do.	do.	do.	do.	Trace	Amber	do.	Amphoteric.
11	Aug. 10	do.	do.	do.	do.	do.	do.	do.	Trace	Amber	do.	Amphoteric.
11	Aug. 15	do.	do.	do.	do.	do.	do.	do.	Trace	Amber	do.	Amphoteric.
12	Aug. 21	do.	Negative.	do.	do.	do.	do.	do.	Slight	do.	do.	Amphoteric.
12	Aug. 25	do.	Trace	do.	do.	do.	do.	do.	Strong.	Amber	do.	Amphoteric.

SUBJECT No. 5.

1	May 4	Moderate.	Slight	Negative.	Negative.	Negative.	Negative.	Negative.	Negative.	Negative.	Light amber.	Acid.	Occasional w. b. c.; few amorphous urates; occasional mucous shreds.
1	May 9	Slight	None	do.	do.	do.	do.	do.	Slight	do.	do.	do.	Occasional w. b. c.; few amorphous urates; occasional epithelial cells.
2	May 15	Trace	Slight	do.	do.	do.	do.	do.	Negative.	do.	do.	do.	Occasional epithelial cells; occasional mucous shreds; occasional w. b. c.
2	May 19	Negative.	Negative.	do.	do.	do.	do.	do.	do.	Amber.	Amphoteric.	Amphoteric.	Few epithelial cells and amorphous phosphates; occasional w. b. c.

Qualitative and microscopic examination of urine—Continued.

SUBJECT No. 5—Continued.

Patient.	Date.	Indolacetic acid.	Aromatic oxyacids.	Fe ₂ Cl ₆ test.	Glycuronates.	Sugar.	Albumin.	Acetone.	Phenol.	Color.	Reaction.	Microscopic.
3	May 24	Slight.....	Slight.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Amber.....	Amphoterie.....	Few epithelial cells; occasional mucous shreds; occasional calcium phosphates.
3	May 30	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Occasional w. b. c.; few epithelial cells; mucous shreds, and amorphous phosphates.
4	June 3	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Few mucous shreds and amorphous phosphates; occasional epithelial cells.
4	June 8	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Slight.....	do.....	do.....	Few amorphous phosphates and bacteria; occasional mucous shreds and epithelial cells.
5	June 14	Trace.....	Trace.....	do.....	do.....	do.....	do.....	do.....	Trace.....	do.....	Neutral.....	Few oxalates, amorphous phosphate, and mucous shreds; occasional epithelial cells.
5	June 19	Slight.....	Slight.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Acid.....	Occasional epithelial cells and w. b. c.; few amorphous urates and mucous shreds.
6	June 23	Negative.....	do.....	do.....	do.....	do.....	do.....	do.....	Negative.....	do.....	Amphoterie.....	Few bacteria, spermatozoa, and amorphous phosphates; occasional epithelial cells and mucous shreds.
6	June 28	Trace.....	do.....	do.....	do.....	do.....	do.....	do.....	Slight.....	do.....	Slightly acid.....	Few amorphous urates; occasional epithelial cells, mucous shreds, and w. b. c.
7	July 4	Negative.....	Moderate.....	do.....	do.....	do.....	do.....	do.....	Strong.....	do.....	Amphoterie.....	Few amorphous phosphates; occasional oxalates, w. b. c., epithelial cells, and mucous shreds.
7	July 8	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Slight.....	do.....	do.....	Many amorphous phosphates and bacteria; occasional epithelial cells and mucous shreds; 1 to 2 w. b. c. per one-sixth field; 1 r. b. c. found.
8	July 11	.....	.....	.....	.....	.....	Negative.....	.....	.....	.....	.....	1 w. b. c. in every 2 one-sixth fields; 1 r. b. c. found.

Qualitative and microscopic examination of urine—Continued.

SUBJECT No. 5—Continued.

Peri- od.	Date.	Indolacetic acid.	Aromatic oxyacids.	FeCl ₃ test.	Glycuron- ates.	Sugar.	Albumin.	Acetone.	Phenol.	Color.	Reaction.	Microscopic.
9	July 29							Trace		Amber	Slightly acid.	Nothing pathologic.
10	July 30						Moderate	Negative		Light amber	do.	Do.
10	July 31						do.	do.		do.	Amphoteric.	1 w. b. c. in every 2 one-sixth fields; otherwise negative.
10	Aug. 1						Negative.	do.	Slight	Amber	Slightly acid.	Nothing pathologic.
10	Aug. 2	Slight	Moderate	Negative	Negative		Slight	do.		do.	do.	Many calcium oxalates; few bacteria; occasional epithelial cells and mucous shreds; only 1 w. b. c. found.
10	Aug. 3						do.	do.		do.	Amphoteric	Nothing pathologic.
10	Aug. 4						do.	Trace		do.	do.	Do.
10	Aug. 5						do.	Negative		Light amber	do.	Do.
10	Aug. 6						Trace	do.	Slight	Amber	Slightly acid.	Few amorphous phosphates, bacteria, and spermatozoa; few calcium oxalates; 2 w. b. c. seen; occasional epithelial cells and mucous shreds.
10	Aug. 7	Trace	Trace	Negative	Negative	Negative	Negative	do.		Light amber	Amphoteric	Nothing pathologic.
10	Aug. 8						Slight	Trace		do.	do.	Nothing pathologic.
11	Aug. 9						do.	Negative		Amber	Slightly acid.	Do.
11	Aug. 10						Trace	Trace		Light amber	Amphoteric	Do.
11	Aug. 11	Negative	Trace	Negative	Negative	Negative	Trace	Negative	Slight	Amber	Acid	Few amorphous urates and bacteria; occasional epithelial cells and mucous shreds.
11	Aug. 12						Slight	do.		do.	Slightly acid.	Nothing pathologic.
11	Aug. 13						Trace	do.		do.	Amphoteric	Do.
11	Aug. 14						do.	do.		Light amber	Acid	Do.
11	Aug. 15						do.	Trace		Amber	Amphoteric	Do.
11	Aug. 16	Negative	Trace	Negative	Negative	Negative	Slight	Negative	Slight	do.	do.	Few amorphous phosphates, bacteria, and oxalates; occasional w. b. c., epithelial cells, and mucous shreds.
11	Aug. 17						do.	Trace		do.	Slightly acid.	Nothing pathologic.
11	Aug. 18						Trace	Negative		do.	Acid	Do.
12	Aug. 19						do.	do.		do.	Amphoteric	Do.
12	Aug. 20						do.	do.		do.	Slightly alkaline.	Do.
12	Aug. 21						Slight	do.		Light amber	Amphoteric	Do.

12	Aug. 22	Negative..	Trace....	Negative..	Negative..	Negative..	do.....	do.....	Intense...	Amber.....	Slightly alkaline.	Few calcium oxalates; occasional w. b. c.; calcium phosphates, epithelial cells, and mucous shreds; nothing pathologic.
12	Aug. 23	.....	.....	.....	.....	.....	Trace.....	do.....	.....	Amber.....	Amphoteric.	Do.
12	Aug. 24	.....	.....	.....	.....	.....	do.....	do.....	.....	do.....	Alkaline...	Few calcium oxalates; occasional w. b. c.; epithelial cells, and mucous shreds.
12	Aug. 25	.....	.....	.....	.....	.....	do.....	do.....	.....	do.....	Acid.....	Nothing pathologic.
12	Aug. 26	Negative..	Slight...	Negative..	Negative..	Negative..	do.....	do.....	Slight...	do.....	.....	Do.
12	Aug. 27	.....	.....	.....	.....	.....	Negative..	do.....	.....	do.....	Amphoteric.	Few calcium oxalates; occasional w. b. c.; epithelial cells, and mucous shreds.
12	Aug. 28	.....	.....	.....	.....	.....	do.....	do.....	.....	do.....	do.....	Nothing pathologic.

SUBJECT No. 6.

1	May 4	Moderate..	Negative..	Negative..	Negative..	Negative..	Negative..	Negative..	Negative..	Negative..	Acid.....	Occasional w. b. c.; occasional epithelial cells; occasional amorphous urates.
1	May 9	Slight....	do.....	do.....	do.....	do.....	do.....	do.....	Slight...	do.....	do.....	Occasional w. b. c.; occasional epithelial cells; occasional mucous shreds; few amorphous urates.
2	May 15	Trace....	Slight...	do.....	do.....	do.....	do.....	do.....	Negative..	do.....	do.....	Occasional mucous shreds; occasional epithelial cells; few amorphous urates.
2	May 19	Slight....	Negative..	do.....	do.....	do.....	do.....	do.....	do.....	Amber.....	Slightly acid..	Few epithelial cells, amorphous urates, and mucous shreds; occasional w. b. c.
3	May 24	do.....	Slight...	do.....	do.....	do.....	do.....	do.....	do.....	Light amber.	do.....	Do.
3	May 30	Trace....	Trace....	do.....	do.....	do.....	do.....	do.....	Trace....	Amber.....	Amphoteric...	Few epithelial cells, mucous shreds, and amorphous phosphates; occasional w. b. c.
4	June 3	do.....	Slight...	do.....	do.....	do.....	do.....	do.....	Slight...	do.....	do.....	Few amorphous phosphates and mucous shreds; occasional epithelial cells and calcium phosphates.
4	June 8	Moderate..	Trace....	do.....	do.....	do.....	do.....	do.....	Trace....	do.....	Neutral.....	Few bacteria, mucous shreds, and amorphous phosphates; occasional epithelial cells and oxalates.
5	June 14	Slight....	do.....	do.....	do.....	do.....	do.....	do.....	Slight...	do.....	do.....	Many amorphous phosphates; few bacteria; occasional oxalates, epithelial cells, w. b. c., and mucous shreds.
5	June 19	Trace....	Slight...	do.....	do.....	do.....	do.....	do.....	Trace....	do.....	Acid.....	Occasional epithelial cells and mucous shreds; few amorphous urates.

11	Aug. 11	Negative..	Trace.....	Negative..	Negative..	do.....	Negative..	Trace.....	Light amber..	Amphoteric...	Many amorphous phosphates; few bacteria; occasional epithelial cells, mucous shreds, spermatozoon, and w. b. c.
11	Aug. 16	Trace.....	Moderate..	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Few amorphous phosphates and bacteria; occasional epithelial cells and mucous shreds.
12	Aug. 22	Negative..	Slight.....	do.....	do.....	do.....	do.....	Slight.....	do.....	do.....	Do.
12	Aug. 26	Trace.....	do.....	do.....	do.....	do.....	do.....	Trace.....	do.....	do.....	Do.

QUALITATIVE EXAMINATION OF FECES.

These examinations showed the following changes from the normal:

Toward the end of the work the odor of the feces had something which was somewhat aromatic. It is difficult to describe this, but it was not the pungent, the sour, or the usual fecal odor. The feces as a rule were softer than the normal or the control. In a number of subjects, and particularly in No. 3, the feces in a goodly number of instances floated on water. Mucus was found once in No. 4 after the attack of enteritis. Tests for indol, phenol, and with bichloride gave more marked reactions during the middle and end of the experiment. Skatol was not found.

Feces chart excepting bacteriologic work.

SUBJECT No. 1.

Peri- od.	Date.	Weight (grams).	Color.	Odor.	Reaction on standing.	Consistency.	Specific gravity rela- tive to water.	Mucus.	Indol.	HgCl ₂ test.	Phenol.	Skatol.
1	May 4	228	Brown	Fecal	Neutral	Semisolid	Sinks	None	Negative	Moderate	Negative	Negative
1	May 10	59	Dark brown	do.	Acid	Hard	do.	do.	Trace	do.	Slight	Do.
2	May 16	48	Brown	do.	do.	Soft	do.	do.	Slight	do.	Trace	Do.
2	May 19	169	do.	do.	Slightly acid	do.	do.	do.	do.	do.	do.	Do.
3	May 24	81	Light brown	do.	Acid	do.	do.	do.	Moderate	do.	Negative	Do.
3	May 30	64	do.	do.	do.	Hard	do.	do.	Slight	Moderate	Trace	Do.
4	June 3	90	Dark brown	do.	Slightly acid	Soft	do.	do.	Moderate	Slight	do.	Do.
4	June 7	77	do.	do.	do.	Hard	do.	do.	Slight	Strong	Slight	Do.
5	June 12	85	do.	do.	Acid	Soft	do.	do.	do.	do.	do.	Do.
5	June 19	64	Brown	do.	do.	Semisolid	do.	do.	Moderate	do.	Trace	Do.
6	June 24	134	Greenish brown	do.	do.	do.	do.	do.	Trace	do.	Strong	Do.
6	June 29	137	do.	do.	do.	do.	do.	do.	Trace	do.	do.	Do.
7	July 6	73	do.	Aromatic	do.	do.	do.	do.	Slight	do.	Trace	Do.
7	July 10	234	do.	do.	do.	do.	do.	do.	Slight	do.	Trace	Do.
8	July 14	52	Dark brown	do.	do.	Soft	do.	do.	Moderate	Strong	Negative	Do.
8	July 19	119	do.	do.	do.	Semisolid	Floats	do.	do.	Slight	Slight	Do.
9	July 25	66	do.	do.	do.	do.	Sinks	do.	Trace	Strong	Trace	Do.
9	July 29	27	do.	Fecal	do.	Hard	do.	do.	Moderate	Moderate	Slight	Do.
10	Aug. 2	37	do.	Aromatic, fe- cal	do.	do.	do.	do.	Slight	do.	do.	Do.
10	Aug. 8	71	do.	Aromatic	do.	Semisolid	do.	do.	Moderate	Strong	do.	Do.
11	Aug. 14	42	Brown	Fecal	do.	Hard	do.	do.	Trace	Slight	Trace	Do.
11	Aug. 18	84	do.	Aromatic, fe- cal	do.	Semisolid	do.	do.	Moderate	Moderate	Moderate	Do.
12	Aug. 23	144	Dark brown	do.	do.	Hard	do.	do.	do.	do.	do.	Do.
12	Aug. 26	88	do.	Fecal	do.	Semisolid	do.	do.	Slight	Strong	do.	Do.

SUBJECT No. 2A.

Peri- od.	Date.	Weight (grams).	Color.	Odor.	Reaction on standing.	Consistency.	Specific gravity rela- tive to water.	Mucus.	Indol.	HgCl ₂ test.	Phenol.	Skatol.
1	May 3	35	Brown	Fecal, sour	Neutral	Semisolid	Sinks	None	Negative	Slight	Slight	Negative
1	May 9	73	do.	do.	do.	Hard	do.	do.	do.	Trace	do.	Do.
2	May 15	52	do.	do.	do.	do.	do.	do.	Moderate	Slight	Moderate	Do.
2	May 20	86	Light brown	Fecal	Slightly acid	Soft	do.	do.	Slight	Moderate	do.	Do.
3	May 25	71	Brown	do.	Acid	Hard	do.	do.	do.	do.	Slight	Do.
3	May 29	103	Light brown	do.	do.	Soft	do.	do.	do.	do.	Trace	Do.
4	June 2	60	Brown	do.	do.	do.	do.	do.	do.	Strong	do.	Do.
4	June 7	156	Greenish brown	do.	do.	do.	do.	do.	Moderate	Slight	do.	Do.
5	June 12	111	Light brown	do.	do.	Soft	do.	do.	do.	do.	Trace	Do.
5	June 19	102	Brown	do.	do.	Hard	do.	do.	Slight	Strong	Negative	Do.

Feces chart excepting bacteriologic work—Continued.

SUBJECT No. 2A—Continued.

Peri- od.	Date.	Weight (grams).	Color.	Odor.	Reaction on standing.	Consistency.	Specific gravity rela- tive to water.	Mucus.	Indol.	HgCl ₂ test.	Phenol.	Skatol.
6	June 24	103	Light brown...	Fecal...	Acid...	Hard...	Sinks...	None...	Slight...	Strong...	Negative...	Negative.
6	June 28	103	Brown...	do...	do...	Semisolid...	do...	do...	do...	do...	do...	Do.
7	July 5	57	do...	Aromatic...	do...	Hard...	do...	do...	Moderate...	Intense...	Slight...	Do.
7	July 11	87	do...	Fecal...	do...	Semisolid...	do...	do...	do...	Strong...	Trace...	Do.

SUBJECT No. 2B.

9	July 24	49	Brown...	Fecal...	Acid...	Hard...	Sinks...	None...	Slight...	Strong...	Slight...	Negative
9	July 28	81	Grayish brown...	do...	Slightly alka- line.	Semisolid...	do...	do...	Strong...	do...	Strong...	Do.
10	Aug. 1	98	Light brown...	Aromatic...	Acid...	do...	do...	do...	Moderate...	Trace...	Trace...	Do.
10	Aug. 7	115	do...	Fecal, sour...	do...	Soft...	Floats...	do...	do...	Slight...	Trace...	Do.
11	Aug. 12	252	Greenish yellow...	Sour, putrid...	do...	Semisolid...	do...	do...	Slight...	Strong...	Trace...	Do.
11	Aug. 17	147	Light brown...	Aromatic, fe- cal.	do...	do...	Sinks...	do...	do...	do...	Slight...	Do.
12	Aug. 22	83	do...	Fecal, sour, aromatic.	do...	do...	do...	do...	do...	Moderate...	do...	Do.
12	Aug. 25	180	do...	Sour, putrid...	do...	Soft...	do...	do...	Moderate...	Strong...	do...	Do.

SUBJECT No. 3.

1	May 3	46	Brown...	Fecal...	Neutral...	Semisolid...	Sinks...	None...	Negative...	Trace...	Negative...	Negative.
1	May 9	99	do...	do...	Slightly acid...	do...	do...	do...	do...	Moderate...	Moderate...	Do.
2	May 15	195	Light brown...	do...	Acid...	Soft...	do...	do...	Trace...	Negative...	Slight...	Do.
2	May 19	44	do...	do...	Slightly acid...	Hard...	do...	do...	Moderate...	Strong...	Trace...	Do.
3	May 24	70	do...	do...	Neutral...	Soft...	do...	do...	do...	do...	do...	Do.
3	May 29	67	Dark brown...	do...	Slightly acid...	do...	do...	do...	Trace...	Moderate...	do...	Do.
4	June 2	55	do...	do...	Neutral...	do...	do...	do...	Moderate...	Slight...	do...	Do.
4	June 8	141	Brown...	do...	Slightly acid...	Hard...	do...	do...	Slight...	do...	Slight...	Do.
5	June 14	140	Light brown...	do...	Acid...	Semisolid...	do...	do...	do...	do...	Trace...	Do.
5	June 16	32	Dark brown...	do...	do...	do...	do...	do...	do...	Strong...	do...	Do.
6	June 23	148	Greenish brown...	do...	do...	Soft...	Floats...	do...	do...	Moderate...	Negative...	Do.
6	June 29	144	do...	do...	do...	Soft...	do...	do...	do...	Trace...	Slight...	Do.
7	July 5	156	Dark brown...	Fecal, sour...	do...	Soft...	do...	do...	do...	Moderate...	Trace...	Do.
7	July 11	183	Greenish brown...	Aromatic...	do...	Soft...	do...	do...	Trace...	do...	do...	Do.
8	July 14	97	Brown...	do...	do...	do...	Sinks...	do...	Moderate...	Strong...	Moderate...	Do.

SUBJECT No. 4.

8	July 18	217	Dark brown	do.	do.	Semisolid	do.	do.	Trace	Trace	Slight	Do.
9	July 24	154	Chocolate	fecal	do.	Hard	do.	do.	Slight	Strong	do.	Do.
9	July 28	136	Brown	Fecal, sour	do.	Soft	do.	do.	Moderate	do.	Strong	Do.
10	Aug. 1	263	Greenish brown	do.	do.	Liquid	do.	do.	Slight	Intense	Trace	Do.
10	Aug. 7	181	Dark brown	Sour, putrid	do.	do.	Floats	do.	Moderate	do.	Slight	Do.
11	Aug. 12	176	Greenish brown	do.	do.	Soft	do.	do.	do.	Strong	do.	Do.
11	Aug. 17	136	do.	Acrid, fecal	do.	Semisolid	do.	do.	Slight	Moderate	Trace	Do.
12	Aug. 24	142	Dark brown	A ro in afe,	do.	do.	Sinks	do.	Trace	do.	Moderate	Do.
12	Aug. 26	151	Light brown	Fecal	do.	do.	do.	do.	Strong	Strong	do.	Do.

1	May 5	45	Dark brown	Fecal	Neutral	Hard	Sinks	None	None	Moderate	Trace	Negative
1	May 11	29	do.	do.	do.	Very hard	do.	do.	do.	Slight	do.	Do.
2	May 17	31	do.	do.	Slightly acid	Hard	do.	do.	do.	do.	Negative	Do.
3	May 23	57	Greenish brown	do.	Acid	do.	do.	do.	Moderate	Trace	Slight	Do.
3	May 26	42	Brown	Fecal, sour	Slightly acid	do.	do.	do.	Trace	Moderate	Negative	Do.
4	May 31	55	do.	Fecal	do.	do.	do.	do.	Moderate	do.	Trace	Do.
4	June 5	79	do.	do.	Acid	Soft	do.	do.	Slight	do.	do.	Do.
5	June 9	33	Dark brown	do.	do.	Hard	do.	do.	Trace	Trace	Slight	Do.
5	June 13	58	Brown	do.	Slightly acid	Semisolid	do.	do.	Slight	Slight	do.	Do.
5	June 21	109	Dark brown	do.	Acid	Hard	do.	do.	do.	Trace	Moderate	Do.
6	June 26	42	Greenish brown	do.	do.	Semisolid	do.	do.	Moderate	Strong	Trace	Do.
6	July 1	49	Dark brown	do.	do.	Hard	do.	do.	Slight	Trace	do.	Do.
7	July 7	92	Brown	Fecal, aromatic	do.	do.	do.	do.	do.	do.	Slight	Do.
7	July 12	72	Dark brown	do.	do.	do.	do.	do.	do.	do.	do.	Do.
8	July 17	83	Light brown	Aromatic	do.	Semisolid	do.	do.	do.	Strong	do.	Do.
8	July 20	85	Brown	Fecal	do.	do.	do.	do.	do.	Moderate	do.	Do.
9	July 28	84	Light brown	Fecal, aromatic	do.	Hard	do.	do.	Strong	do.	Strong	Do.
9	July 31	112	Dark brown (carbon)	Aromatic	do.	do.	do.	do.	Slight	Trace	Slight	Do.
10	Aug. 3	46	Brown	do.	do.	Semisolid	do.	do.	Moderate	Moderate	Moderate	Do.
10	Aug. 8	103	Greenish brown	Pungent, fecal	do.	do.	do.	do.	Intense	Strong	Strong	Do.
11	Aug. 16	1,214	Yellowish	Sour, putrid	do.	Liquid, foamy	Floats	Slight	do.	Trace	do.	Do.
11	Aug. 19	131	Black (carbon)	do.	do.	Liquid	Sinks	Negative	Strong	Moderate	do.	Do.
12	Aug. 25	110	Dark brown	Fecal	do.	Hard	do.	do.	Intense	Slight	do.	Do.
12	Aug. 26	83	Light brown	do.	do.	do.	do.	do.	do.	Strong	do.	Do.

Feces chart excepting bacteriologic work—Continued.

SUBJECT N. 5.

Part- od.	Date.	Weight (grams).	Color.	Odor.	Reaction on standing.	Consistency.	Specific gravity rela- tive to water.	Mucus.	Indol.	HgCl ₂ test.	Phenol.	Skatol.
1	May 5	194	Brown	Fecal	Slightly acid.	Semisolid	Sinks	None	Negative	Moderate	Slight	Negative.
1	May 10	56	Dark brown	do.	do.	Hard	do.	do.	Trace	do.	Strong	None.
2	May 16	68	do.	do.	Acid	do.	do.	do.	Moderate	Slight	Trace	Negative.
2	May 20	67	do.	do.	do.	do.	do.	do.	do.	Trace	Slight	Do.
3	May 25	157	do.	do.	Slightly acid.	Soft	do.	do.	Trace	Strong	Trace	Do.
3	May 30	141	Brown	do.	Strongly acid.	do.	do.	do.	Moderate	Moderate	Negative	Do.
4	June 6	141	Dark brown	do.	Acid	Hard	do.	do.	Slight	Strong	Negative	Do.
4	June 10	45	do.	do.	do.	do.	do.	do.	do.	Trace	Slight	Do.
5	June 16	93	do.	do.	do.	Semisolid	do.	do.	Moderate	Moderate	Moderate	Do.
5	June 20	222	do.	do.	do.	do.	do.	do.	Trace	Slight	do.	Do.
6	June 25	130	do.	do.	do.	do.	do.	do.	Strong	Trace	do.	Do.
6	June 30	90	Greenish brown	Fecal, aro- matic.	do.	do.	do.	do.	Moderate	do.	Slight	Do.
7	July 8	138	Dark brown	do.	do.	Hard	do.	do.	Slight	do.	Strong	Do.
7	July 11	77	Greenish brown	Aromatic	do.	Semisolid	Floats	do.	do.	Slight	Trace	Do.
8	July 15	126	do.	do.	do.	do.	do.	do.	do.	Strong	Moderate	Do.
8	July 20	231	do.	Sour, putrid.	do.	Liquid	do.	do.	Strong	do.	Trace	Do.
9	July 27	360	Light brown	do.	do.	Soft	do.	do.	do.	do.	Moderate	Do.
9	July 31	56	Dark brown (car- bon).	Aromatic	do.	Hard	Sinks	do.	do.	Trace	Slight	Do.
10	Aug. 3	153	Brown	Fecal, aro- matic.	do.	Semisolid	do.	do.	do.	Moderate	Moderate	Do.
10	Aug. 9	87	Dark brown (car- bon).	Aromatic	do.	do.	do.	do.	Moderate	Trace	do.	Do.
11	Aug. 16	73	Light brown	Fecal	do.	Hard	do.	do.	Strong	Strong	Strong	Do.
11	Aug. 20	134	Black (carbon)	Aromatic, fe- cal.	do.	Semisolid	do.	do.	Intense	Slight	do.	Do.
12	Aug. 24	118	Dark brown	Sour, aro- matic, fe- cal.	do.	do.	do.	do.	Moderate	Moderate	Trace	Do.
12	Aug. 26	77	do.	Fecal	do.	Hard	do.	do.	Strong	Strong	Intense	Do.

SUBJECT No. 6.

Part- od.	Date.	Weight (grams).	Color.	Odor.	Reaction on standing.	Consistency.	Specific gravity rela- tive to water.	Mucus.	Indol.	HgCl ₂ test.	Phenol.	Skatol.
1	May 5	321	Brown	Fecal	Slightly acid	Semisolid	Sinks	None	Trace	Moderate	Slight	Negative.
1	May 11	147	Greenish brown	do.	Acid	Liquid	do.	do.	Moderate	do.	Trace	Do.
2	May 17	187	do.	do.	do.	Soft	do.	do.	do.	do.	Moderate	Do.
2	May 22	423	do.	do.	do.	do.	Floats	do.	Slight	Trace	Slight	Do.
3	May 27	237	do.	do.	do.	do.	Sinks	do.	Moderate	Strong	Trace	Do.

3	May 31	165	do	Focal, sour.	do.	do.	do.	Floats.	do.	Strong.	Trace.	Negative.	Do.
4	June 3	105	Brown.	Focal.	do.	do.	do.	Sinks.	do.	Moderate.	Trace.	do.	Do.
5	June 8	125	Light brown.	Focal, sour.	Strongly acid.	Liquid.	do.	do.	do.	Trace.	do.	do.	Do.
6	June 14	378	Brown.	do.	Acid.	do.	do.	do.	do.	Strong.	do.	do.	Do.
7	June 16	90	Light brown.	Focal.	Slightly alkaline.	Soft.	do.	do.	do.	Moderate.	do.	do.	Do.
8	June 23	330	Greenish brown.	do.	Acid.	Liquid.	do.	Floats.	do.	do.	Slight.	do.	Do.
9	June 28	73	Dark brown.	Focal, aromatic.	do.	Semisolid.	do.	do.	do.	Trace.	do.	Negative.	Do.
10	July 6	44	Greenish brown.	Focal.	do.	do.	do.	Sinks.	do.	Moderate.	Trace.	do.	Do.
11	July 10	243	do.	Aromatic.	do.	Liquid.	do.	do.	do.	Moderate.	Negative.	do.	Do.
12	July 15	166	do.	do.	do.	Soft.	do.	do.	do.	Strong.	Slight.	do.	Do.
13	July 19	575	do.	Sour, putrid.	do.	Liquid.	do.	Floats.	do.	do.	Moderate.	Negative.	Do.
14	July 25	324	Light brown.	Sour, fecal.	do.	Soft.	do.	do.	do.	do.	Strong.	Trace.	Do.
15	July 29	191	Brown.	Sour, putrid.	do.	do.	do.	do.	do.	do.	Slight.	do.	Do.
16	Aug. 2	308	Light brown.	do.	do.	Liquid.	do.	Sinks.	do.	do.	Strong.	do.	Do.
17	Aug. 8	92	Dark brown.	Aromatic.	do.	Semisolid.	do.	do.	do.	Slight.	do.	do.	Do.
18	Aug. 14	289	Greenish brown.	Sour, putrid.	do.	Soft.	do.	Floats.	do.	Strong.	Strong.	Slight.	Do.
19	Aug. 18	78	Dark brown.	Aromatic, fecal.	do.	Semisolid.	do.	Sinks.	do.	Moderate.	Strong.	Trace.	Do.
20	Aug. 22	247	Brown.	do.	do.	Soft.	do.	do.	do.	do.	do.	Moderate.	Do.
21	Aug. 25	82	do.	Focal.	do.	Semisolid.	do.	do.	do.	Strong.	do.	do.	Do.

GAS PRODUCTION IN GLUCOSE BOUILLON TUBES.

The volume of gas produced was about that found normally, excepting several times during the fifth period. In the feces of June 14 of No. 3 there was no gas production whatever. The bacteria in this tube were practically all streptococci and acidophile bacilli, whereas the usual flora for this medium for No. 3 was mostly of the colon type. These acid formers may therefore explain the absence of gas. In the same period in No. 4, on June 21, only a few bubbles resulted after about 20 hours' incubation. In the sediment a very large number of cocci and a correspondingly smaller number of coli were found, but it is unlikely that these cocci had any influence on the lessened gas production, because on other occasions, with about the normal percentage of gas, a similar picture was found. In the feces of June 14 of No. 6, no gas was produced. The bacteria in this sediment were practically all cocci, but a similar flora was found on other days with the proper amount of gas.

We can not explain this lack of gas production. It might be added that the glucose medium was sterilized in the autoclave at about 7 or 8 pounds pressure, but this has been our practice for several years, and, in spite of contrary directions in many textbooks, we have never found this procedure to injure the sugar or interfere with the gas production.

Gas in glucose bouillon tubes.

Period.	Subject No. 1.		Subject No. 2.		Subject No. 3.		Subject No. 4.		Subject No. 5.		Subject No. 6.	
	Date.	Gas.	Date.	Gas.	Date.	Gas.	Date.	Gas.	Date.	Gas.	Date.	Gas.
		<i>P. ct.</i>		<i>P. ct.</i>		<i>P. ct.</i>		<i>P. ct.</i>		<i>P. ct.</i>		<i>P. ct.</i>
1	May 4	33	May 3	33	May 3	40	May 5	30	May 5	25	May 5	33
1	May 10	25	May 9	33	May 9	25	May 11	30	May 10	33	May 11	15
2	May 16	25	May 15	33	May 15	25	May 17	40	May 16	33	May 17	25
2	May 19	33	May 20	33	May 19	40	May 23	33	May 20	25	May 22	33
3	May 24	33	May 25	25	May 24	33	May 26	33	May 25	25	May 27	33
3	May 30	25	May 29	25	May 29	40	May 31	33	May 30	25	May 31	33
4	June 3	45	June 2	30	June 2	25	June 5	30	June 6	33	June 3	25
4	June 7	45	June 7	33	June 8	15	June 9	33	June 10	20	June 8	33
5	June 12	25	June 12	10	June 14	0	June 15	15	June 16	10	June 14	0
5	June 19	20	June 19	20	June 16	20	June 21	(¹)	June 20	25	June 16	33
6	June 24	25	June 24	15	June 23	33	June 26	33	June 25	15	June 23	25
6	June 29	40	June 28	25	June 29	25	July 1	20	June 30	40	June 28	25
7	July 6	25	July 5	25	July 5	40	July 7	25	July 8	25	July 6	25
7	July 10	10	July 11	33	July 11	33	July 12	30	July 11	25	July 10	33
8	July 14	40	New man.		July 14	40	July 17	25	July 15	20	July 15	20
8	July 19	30			July 18	33	July 20	15	July 20	25	July 19	10
9	July 25	33	July 24	20	July 24	25	July 28	20	July 27	33	July 25	25
9	July 29	33	July 28	40	July 28	50	July 31	25	July 31	25	July 29	25
10	Aug. 2	40	Aug. 1	25	Aug. 1	33	Aug. 3	33	Aug. 3	25	Aug. 2	25
10	Aug. 8	33	Aug. 7	40	Aug. 7	33	Aug. 8	25	Aug. 9	25	Aug. 8	15
11	Aug. 14	45	Aug. 12	25	Aug. 12	40	Aug. 16	33	Aug. 16	15	Aug. 14	50
11	Aug. 18	45	Aug. 17	33	Aug. 17	40	Aug. 19	33	Aug. 20	40	Aug. 18	33
12	Aug. 23	40	Aug. 22	25	Aug. 24	33	Aug. 25	20	Aug. 24	25	Aug. 22	33
12	Aug. 26	40	Aug. 25	25	Aug. 26	25	Aug. 26	25	Aug. 26	25	Aug. 25	33

¹ Few bubbles.

GRAM STAINS.

Gram stains were made on smears of an emulsion (1-10) of the feces and on smears of sediments from plain and 1 per cent glucose broth, after inoculation from this emulsion, and after 20 hours' incubation at 37° C.

The picture obtained in direct smears of adult feces on a mixed diet is a rather constant one. It is difficult to be quite certain of slight variations from this constant picture. In this experiment the direct smears of feces of seven men were studied. It will be remembered that for subject No. 2 two young men were used in succeeding periods. These we have designated as No. 2A and No. 2B, No. 2A acting from the first to the seventh period, inclusive, and No. 2B from the ninth period to the end of the experiment.

Subjects Nos. 1, 2B, 4, and 6 showed no positively definite variations from the constant adult flora in the earliest direct smears that were examined, those in the first period. These earliest smears, made in all subjects at or after a few days from the time of their entrance on the squad work, were considered as giving the normal or typical flora for the particular subject, and were the controls for later smears. Similar control smears for subjects Nos. 2A, 3, and 5 showed slight or great differences from the usual pictures obtained from adult feces. Subject No. 2A had about the normal distribution of both gram-negative and positive organisms, but it was believed that the intestinal cocci were probably a little more numerous than is the rule. Subject No. 5 presented an interesting feature in that branched organisms, diagnosed *Bacillus bifidus*, were more easily found than usual, though they were by no means numerous. In the direct smears from the feces of subject No. 3 there certainly was a much greater number of gram-positive bacilli of a certain kind than can be found normally, so that the gram-positive organisms were about as numerous as the gram-negatives. In some smears, so numerous were these bacilli, it was believed that the positive organisms were in excess. These particular bacilli were of the acidophile type, and though they approximated very closely the morphology of the *Bacillus acidophilus*, we could not certainly differentiate them from the *Bacillus bifidus*. No branched bulb-ended or punctate bacilli were observed in this variety. The organisms were longer and plumper than the unbranched *bifidus* we were accustomed to observe in the direct smears of the adult feces. This finding is of interest to us in connection with the young man's stature and weight. He was 5 feet 2 inches in height and weighed close to 100 pounds, frequently having a weight under 100 pounds. In the blood examination of this subject a constant, though moderate, eosinophilia was noted. This too may be of some significance when considered in conjunction with feces flora, which approximated very closely that found in young infants.

From the control specimens no variations were noted in the direct smears of all the subjects throughout the experiment. Subject No. 3, possibly, presented a slight variation. This statement is worded as it is because, as has been mentioned, it is impossible to be quite sure of anything but big variations in feces flora or direct smears. In the eighth period, and in the tenth as well, there seemed to be an appreciable reduction in the number of predominant gram-positive bacilli that have been mentioned in this subject's smears, and this reduction persisted somewhat into the periods after the tenth, though not so positively. In subject No. 4, in the eleventh period, there was a marked increase in gram-negative bacilli compared with the controls, but these smears were made on the feces following a large dose of castor oil, which explains this variation.

SMEARS OF SEDIMENTS OF PLAIN BOUILLON TUBES.

The earliest smears from sediments from the bouillon tubes were used as control specimens. In all of the subjects these smears presented a predominance of colon-type negative organisms. The positive organisms varied a little in the different subjects, some showing a few diplococci and only occasional bacilli of various morphologies; others, particularly subjects Nos. 4 and 5, showing a good many cocci. Subject No. 5, in addition, gave in the earliest smears a rather large number of bulb-ended slender bacilli and slender organisms without bulb which were adjudged as belonging to the *Bacillus bifidus* variety. Besides these, subject No. 5 had in these earliest smears a small number of gram-positive bacilli that were slightly longer and larger than those described above, and the diagnosis of *Bacillus acidophilus* was probably correct. Any definite variations from the control specimens are noted below.

Subject No. 1.—Once at the end of the second period, in the fourth period, once in the fifth, and in the sixth and seventh, once in the eighth, once in the ninth, and in the first part of the eleventh periods there was noted a distinct increase in bacilli that were denoted of the acidophile type. Cocci were increased in the last part of the seventh period and the last part of the eleventh period.

Subject No. 2A.—Acidophile organisms were found increased in the first parts of the third, sixth, and seventh periods. Cocci were more numerous than in the control in the fifth and sixth periods.

Subject No. 2B.—In the eleventh and first part of the twelfth periods the acidophile organisms were much predominant.

Subject No. 3.—Cocci were more numerous than in the control in the third, fifth, sixth, and first part of the seventh, first part of the eleventh, and in the twelfth periods. A note was made that in the eleventh period the cocci were grouped and were of a smaller size so as to suggest the pyogenic staphylococci. We realize that these factors were not of sufficient weight to definitely decide that

such was the nature of the cocci. The circumstances were only suggestive. Acidophile organisms were abundant in the fifth, first part of the sixth, first part of the seventh, first part of the ninth, and first part of the tenth periods.

Subject No. 4.—In the first part of the second period, the last part of the fourth, the last part of the fifth, and in the sixth periods a large number of very long gram-negative interweaving bacilli or threads were found, the nature of which was not decided. No other rather constant findings were noted except in the last part of the tenth period, when there was found a very large number of cocci which here again were grouped like the staphylococci.

Subject No. 5.—Acidophile bacilli were found increased in the fourth, last part of the fifth, first part of the eighth, and last part of the eleventh periods. Cocci were very numerous in the last part of the fourth, first part of the fifth, and last part of the sixth periods.

Subject No. 6.—The smears from this subject nearly always contained a good many of the type of *Bacillus subtilis*. The acidophile bacilli were increased in the first part of the second, first part of the fourth, in the fifth, first part of the sixth, first part of the ninth, and last part of the twelfth periods. Cocci were twice increased.

In all of these six subjects, the gram-positive organisms occasionally were so numerous as to be in the majority or to be almost exclusively present, making a gram-positive picture against the predominantly gram-negative control. There was no regularity whatever in this predominance of gram-positive organisms, and it occurred only a few times in each man throughout the time of observation. Even with a distinct increase in acidophile bacilli or in cocci, the specimens nearly always were preeminently gram-negative.

GRAM STAINS FROM SEDIMENTS OF GLUCOSE BOUILLON TUBES.

The control smears gave the following: In subject No. 1, the colon type predominated with a small number of cocci and acidophile bacilli; in subject No. 2B, cocci predominated with only a few coli; in subject No. 2A, cocci and coli divided the picture; smears from subject No. 3 showed a majority of colon, a good many acidophile bacilli, and a small number of cocci; in subject No. 4 colon also predominated very much, and cocci were found in only small numbers; smears of subject No. 5 had a slight majority of colon type, but cocci were present in rather large numbers, and gram-positive organisms that were rather large were seen in small amount; smears from subject No. 6 gave a picture like that of subject No. 2A. In nearly all these smears, where gram-positive bacilli are not mentioned, there were occasional or scattered bacilli of various morphologies. Unquestioned variations from these controls are noted below.

Subject No. 1.—Gram-positive bacilli, designated acidophile bacilli, were increased at the end of the second, the beginning of the third, in the fourth, and the first part of the eleventh periods. Streptococci were much increased at the end of the third, in the sixth, the beginning of the seventh, in the eighth, and at the end of the tenth and eleventh periods.

Subject No. 2A.—The only change in these smears was an increase in cocci at the end of the third, beginning of the fourth, end of the fifth, and beginning of the sixth periods.

Subject No. 2B.—No variations were found in the smears of this subject's feces, excepting a slight reduction in cocci in all but two smears, which were pronounced like the controls.

Subject No. 3.—This is the subject whose fecal flora presented so large a number of gram-positive bacilli. In the earliest smears of these cultures there was a large number of bacilli that were described as being *acidophilus*, or subtiloid, or of a similar nature. In many of the later smears punctuate and branching bacilli suggesting the *Bacillus bifidus*, and antennate forms reminding one of the *Bacillus infantilis*, were seen. The variation in the smears under question from this subject was the chief characteristic. On one examination the specimen would be representative of the control, on the next the acidophile organisms would predominate, and on another the cocci would be mostly in evidence and gram-positive organisms absent or much reduced from the number in the controls. This variation was in some measure noted in all of the subjects, but I believe it was greatest in subject No. 3.

Subject No. 4.—In the last of the fifth, in the sixth period, in the eighth, ninth, and tenth periods, and from the last part of the eleventh period to the end of the experiment, cocci were greatly increased always, as will be seen by noting the control picture, at the expense of the colon type.

Subject No. 5.—At the end of the third, in the sixth, in the beginning of the eighth, ninth, and eleventh periods, the cocci, which in the controls were very numerous, were increased. Once, at the end of the fourth period, bacilli of the *Bacillus welchi* type were almost exclusively present. In this subject there were never any increases in other gram-positive bacilli.

Subject No. 6.—In this subject, it will be remembered, colon and cocci were present in the controls in about equal number, with only an occasional bacillus. The later smears showed very little variation. There was a little variation in the proportion of colon to cocci. The only differences of note were presented on three occasions, at the end of the fourth, fifth, and sixth periods, when a rather large number of acidophile bacilli were recorded.

Summarizing the results of the bacteriologic examination of the feces, it must be stated that no constantly definite variations have

been observed that would lead us to infer that the copper salts had produced a change in the feces flora. The reduction in the number of gram-positive bacilli in the direct smears of subject No. 3, the grouping of the cocci-like staphylococci and the long gram-negative threads in the smears of the bouillon sediments of subject No. 4 are suggestive, but certainly are not of sufficient weight to interfere with the conclusion drawn above.

BLOOD EXAMINATIONS.

Blood examinations were made once a period of 10 days, two men doing the work on the same subject at the same time, working thus in duplicate. Three successive drops were counted by each man from each pipette, and only the usual variations in good counting were accepted. The figures given in the chart for the red and white blood corpuscles are the averages of these three counts. The hemoglobin percentages were obtained from the Dare instrument, two men reading the same preparation as soon as possible after getting the blood. Wright's stain was employed for the smears, and 200 cells were counted by each man in computing the differential count of the white blood corpuscles. The features examined in the smears are indicated in the chart.

There was no appreciable variation in the count of the red and white blood corpuscles in Nos. 1, 2A, 2B, and 4. No. 3 showed a rather distinct loss in red blood corpuscles, the counts being lowest in the tenth and eleventh periods. No. 5 presented this phenomenon also, the red blood corpuscles being fewer up to the eighth period, rising in number a little in the ninth period, dropping back in the tenth and eleventh periods, and rising again a little in the after period. The white blood corpuscles of No. 3 and No. 5 showed no variation in total count from the normal. The red blood corpuscles of No. 6 likewise were considerably reduced in total number as the experiment advanced. The white blood corpuscles in two periods, the ninth and the twelfth, both noncopper periods, showed a very slight increase above the normal upper limit. Just what this means we are unable to say. The normal limits for the white blood corpuscles are here assumed to be from 6,000 to 10,000.

The hemoglobin percentages showed considerable change. Those for subjects Nos. 1 and 2A dropped in the fourth period, went still lower in the fifth, came up slightly in the sixth, and were about the subject's normal in the seventh period. Subject No. 2B showed a slight increase in the eleventh and twelfth periods. It will be recalled that this man entered the work in the ninth or rest period. Subject No. 3 suffered also a loss of hemoglobin in the fourth period, a more marked one in the fifth, slight gains in the sixth and seventh periods, and in the eighth period the hemoglobin was normal or slightly increased over the man's normal. In the ninth or rest period there was a slight or no reduction, a considerable drop in the

tenth period, and in the remaining periods the coloring matter was present in normal or slightly increased amount. Subject No. 4 showed a variation similar to that of No. 3. There was a slight drop in the fourth period and more reduction in the fifth, a slight gain in the sixth, a loss in the seventh, and about the normal figures in the eighth and ninth periods. In the tenth period there was a loss again and about the normal figures in the remaining periods. Subject No. 5 showed a rather constant reduction throughout, beginning possibly in the third period, the greatest loss being in the fifth period and the highest figures in the copper periods being in the seventh and eleventh periods. It should be noted that subject No. 5 stopped taking copper at the end of the tenth period. The figures for No. 6 showed a marked similarity to those for No. 5.

The differential counts gave an increase in small lymphocytes in Nos. 1, 2A, and 6, and it is of interest to note that this increase was present or began in the fourth and fifth periods, at the time when the hemoglobin showed the greatest reduction.

It seems likely that the ingestion of copper acted detrimentally upon the blood. The reduction of red blood corpuscles is slight, and the increase in lymphocytes may be an incident of doubtful significance, but the constancy in the reduction of hemoglobin percentage in all the men in like periods may be a finding of some significance. It is possible, however, that the increase in lymphocytes, paralleling the loss of hemoglobin and in connection with the diarrheas, must have a meaning in the same direction as the loss of hemoglobin.

Blood examinations.

SUBJECT No. 1.

Period.	Date.	Red blood corpuscles.	White blood corpuscles.	Hemoglobin (per cent).	Small lymphocytes.	Large mononuclear leucocytes.	Polynuclear neutrophils.	Poly eosinophiles.	Polynuclear basophiles.	Myelocytes.	Stimulation.	Platelets.	Anisocytosis.
1	May 9	6,130,000	7,500	95	30	4	65	1	0	0	0	Normal...	0
1	May 9	5,640,000	7,400	94	34	5	60	1	0	0	0	.....do.....	0
2	May 17	5,810,000	7,000	95	27	3	65	5	0	0	0	.....do.....	0
2	May 17	5,950,000	7,100	96	38	5	54	3	0	0	0	.....do.....	0
3	May 26	5,660,000	8,000	94	40	5	54	1	0	0	0	.....do.....	0
3	May 26	5,790,000	7,800	93	40	6	53	1	0	0	0	.....do.....	0
4	June 3	5,890,000	7,500	88	37	6	55	2	0	0	0	.....do.....	0
4	June 3	5,350,000	7,300	86	42	3	51	4	0	0	0	.....do.....	0
5	June 13	5,940,000	7,300	85	39	3	57	1	0	0	0	.....do.....	0
5	June 13	5,950,000	7,300	83	41	4	53	2	0	0	0	.....do.....	0
6	June 22	5,840,000	7,200	90	43	5	50	2	0	0	0	.....do.....	0
6	June 22	5,630,000	6,400	89	40	3.5	52	4	0.5	0	0	.....do.....	0
7	July 5	5,980,000	6,700	95	37	3	58	1	0	0	0	.....do.....	0
7	July 5	6,320,000	6,700	95	44	3	51	2	0	0	0	.....do.....	0
8	July 12	5,810,000	6,300	95	38	3	59	0	0	0	0	.....do.....	0
8	July 12	6,050,000	6,800	94	45	4	51	0	0	0	0	.....do.....	0
9	July 25	5,170,000	6,100	93	40	5	55	0	0	0	0	.....do.....	0
9	July 25	5,360,000	6,000	93	36	4	59	1	0	0	0	.....do.....	0
10	Aug. 4	5,970,000	7,200	96	37	4	56	3	0	0	0	.....do.....	0
10	Aug. 4	5,670,000	6,900	94	39	3	56	1	1	0	0	.....do.....	0
11	Aug. 15	5,620,000	6,700	95	34	6	59	1	0	0	0	.....do.....	0
11	Aug. 15	5,670,000	6,800	93	36	5	57	2	0	0	0	.....do.....	0
12	Aug. 25	5,770,000	7,200	95	38	4	51	5	2	0	0	.....do.....	0
12	Aug. 25	5,810,000	6,100	97	36	5	55	3	1	0	0	.....do.....	0

Blood examinations—Continued.

SUBJECT No. 2A.

Period.	Date.	Red blood corpuscles.	White blood corpuscles.	Hemoglobin (per cent).	Small lymphocytes.	Large mononuclear leucocytes.	Polynuclear neutrophils.	Poeyosinophiles.	Polynuclear basophiles.	Myelocytes.	Stimulation.	Platelets.	Anisocytosis.
1	May 6	5,640,000	6,800	96	20	1	78	1	0	0	0	Normal...	0
1	May 6	5,810,000	8,500	96	27	3	69	1	0	0	0	do.....	0
2	May 19	5,440,000	7,800	95	34	1	65	0	0	0	0	do.....	0
2	May 19	5,860,000	7,700	94	38	2	55	2.5	0.5	0	0	do.....	0
3	May 26	5,340,000	8,000	92	30	5	64	1	0	0	0	do.....	0
3	May 26	5,220,000	7,400	93	35	4	60	1	0	0	0	do.....	0
4	June 4	4,990,000	8,200	90	36	3	58	3	0	0	0	do.....	0
4	June 4	5,180,000	8,700	89	29	4	64	3	0	0	0	do.....	0
5	June 13	4,930,000	8,700	85	30.5	5	62.5	2	0	0	0	do.....	0
5	June 13	5,230,000	8,000	85	30	6	63	1	0	0	0	do.....	0
6	June 23	5,120,000	5,900	92	41	3	55	1	0	0	0	do.....	0
6	June 23	5,130,000	6,200	90	39	3	55	3	0	0	0	do.....	0
7	July 5	6,100,000	8,500	96	41	3	55	1	0	0	0	do.....	0
7	July 5	6,070,000	8,400	95	39	4	55	2	0	0	0	do.....	0

SUBJECT No. 2B.

9	July 25	5,090,000	6,500	95	52	1	41	5	1	0	0	Normal...	0
9	July 25	5,160,000	6,500	96	54	4	40	2	0	0	0	do.....	0
10	Aug. 5	5,890,000	5,900	97	45	3	51	1	0	0	0	do.....	0
10	Aug. 5	5,950,000	5,700	95	47	5	46	2	0	0	0	do.....	0
11	Aug. 15	5,350,000	6,000	99	42	4	53	1	0	0	0	do.....	0
11	Aug. 15	5,820,000	6,100	98	46	3	48	2	1	0	0	do.....	0
12	Aug. 26	5,810,000	8,000	99	40	3	56	1	0	0	0	do.....	0
12	Aug. 26	5,890,000	7,100	100	43	2	53	2	0	0	0	do.....	0

SUBJECT No. 3.

1	May 10	6,400,000	8,300	95	30	1.5	60	8.5	0	0	0	Normal...	0
1	May 10	6,960,000	7,400	94	30	2	59.5	8.5	0	0	0	do.....	0
2	May 19	5,540,000	8,500	97	28	1	64	7	0	0	0	do.....	0
2	May 19	5,720,000	8,300	96	35	2	57	7	0	0	0	do.....	0
3	May 28	6,080,000	8,600	96	24	6	65	5	0	0	0	do.....	0
3	May 28	6,240,000	9,400	94	28	5	60	7	0	0	0	do.....	0
4	June 3	6,560,000	7,900	90	30	2	56	12	0	0	0	do.....	0
4	June 3	6,120,000	7,800	92	29	3	59	9	0	0	0	do.....	0
5	June 14	5,570,000	8,200	82	27	2	61	10	0	0	0	do.....	0
5	June 14	5,630,000	7,900	81	31	3	57	9	0	0	0	do.....	0
6	June 23	6,220,000	8,000	88	33	4	55	8	0	0	0	do.....	0
6	June 23	5,790,000	7,700	90	31	3	57	9	0	0	0	do.....	0
7	July 6	6,030,000	8,600	91	26	4	65	5	0	0	0	do.....	0
7	July 6	6,080,000	8,000	90	32	4	56	8	0	0	0	do.....	0
8	July 12	5,970,000	6,500	99	22	3	65	10	0	0	0	do.....	0
8	July 12	6,370,000	6,700	99	25	4	62	8	1	0	0	do.....	0
9	July 26	5,600,000	6,100	92	31	4	53	12	0	0	0	do.....	0
9	July 26	5,610,000	6,300	90	38	4	49	9	0	0	0	do.....	0
10	Aug. 4	4,910,000	8,900	84	30	3	58	9	0	0	0	do.....	0
10	Aug. 4	5,670,000	8,700	84	31	4	59	6	0	0	0	do.....	0
11	Aug. 16	5,070,000	8,200	98	36	4	52	8	0	0	0	do.....	0
11	Aug. 16	5,070,000	8,200	96	37	3	53	7	0	0	0	do.....	0
12	Aug. 25	5,400,000	6,400	99	25	5	60	10	0	0	0	do.....	0
12	Aug. 25	5,490,000	6,500	97	33	4	53	10	0	0	0	do.....	0

SUBJECT No. 4.

1	May 9	4,980,000	5,300	93	35	4	59	2	0	0	0	Normal...	0
1	May 9	4,960,000	5,500	92	44	4	50.5	1	0.5	0	0	do.....	0
2	May 20	4,800,000	6,300	95	37	2	55	6	0	0	0	do.....	0
2	May 20	4,630,000	6,900	94	30	6	60	4	0	0	0	do.....	0
3	May 27	5,010,000	8,000	95	29	5	60	6	0	0	0	do.....	0
3	May 27	5,990,000	6,400	95	32	7	56	5	0	0	0	do.....	0
4	June 4	5,250,000	6,800	90	35	3	60	2	0	0	0	do.....	0
4	June 4	5,030,000	6,700	91	36	5	57	2	0	0	0	do.....	0
5	June 14	5,150,000	7,600	87	40	9	50	1	0	0	0	do.....	0
5	June 14	4,560,000	7,700	85	38	4	54	4	0	0	0	do.....	0

Blood examinations—Continued.

SUBJECT No. 4—Continued.

Period.	Date.	Red blood corpuscles.	White blood puscles.	Hemoglobin (per cent).	Small lymphocytes.	Large mononuclear leucocytes.	Polynuclear neutrophils.	Polycosinophiles.	Polynuclear basophiles.	Myelocytes.	Stimulation.	Platelets.	Anisocytosis.
6	June 22	5,010,000	6,300	92	38	8	51	2	1	0	0	Normal...	0
6	June 22	4,620,000	5,800	90	36	6	57	1	0	0	0	do.....	0
7	July 6	4,640,000	6,600	88	36	2	60	2	0	0	0	do.....	0
7	July 6	4,560,000	6,300	88	45	3	51	1	0	0	0	do.....	0
8	July 13	4,550,000	6,500	93	35	4	60	1	0	0	0	do.....	0
8	July 13	4,700,000	6,600	93	37	5	56	2	0	0	0	do.....	0
9	July 26	5,400,000	6,900	94	41	5	50	4	0	0	0	do.....	0
9	July 26	5,040,000	8,900	93	45	6	45	4	0	0	0	do.....	0
10	Aug. 5	4,450,000	6,300	90	42	4	53	1	0	0	0	do.....	0
10	Aug. 5	4,490,000	6,100	89	45	5	49	2	0	0	0	do.....	0
11	Aug. 16	5,150,000	7,700	95	33	5	60	2	0	0	0	do.....	0
11	Aug. 16	5,180,000	7,800	93	28	4	67	1	0	0	0	do.....	0
12	Aug. 26	4,910,000	6,100	97	40	2	55	3	0	0	0	do.....	0
12	Aug. 26	5,000,000	6,100	95	36	3	57	4	0	0	0	do.....	0

SUBJECT No. 5.

1	May 10	5,630,000	7,700	95	22	5	71	2	0	0	0	Normal...	0
1	May 10	6,125,000	8,100	96	35	6	57	2	0	0	0	do.....	0
2	May 20	5,360,000	7,700	96	31	4	60	5	0	0	0	do.....	0
2	May 20	5,410,000	7,900	96	36	5.5	56	2	0.5	0	0	do.....	0
3	May 28	6,100,000	8,200	90	24	6	67	3	0	0	0	do.....	0
3	May 28	5,950,000	9,300	92	24	5	66	4	0	0	0	do.....	0
4	June 6	5,170,000	9,300	90	36	2	60	2	0	0	0	do.....	0
4	June 6	5,160,000	8,100	88	34	3	61	2	0	0	0	do.....	0
5	June 15	5,090,000	8,300	82	30	3	64	3	0	0	0	do.....	0
5	June 15	5,190,000	9,200	84	32	2.5	62	2	0.5	0	0	do.....	0
6	June 24	6,240,000	7,800	88	25	6	67	2	0	0	0	do.....	0
6	June 24	6,580,000	7,100	88	30	7	60	1	2	0	0	do.....	0
7	July 7	5,090,000	8,700	93	26	2	70	2	0	0	0	do.....	0
7	July 7	5,170,000	8,100	91	29	4	66	1	0	0	0	do.....	0
8	July 13	4,780,000	6,700	88	24	2	70	4	0	0	0	do.....	0
8	July 13	4,770,000	6,300	88	26	3	69	1.5	0.5	0	0	do.....	0
9	July 27	5,280,000	7,000	89	18	2	79	1	0	0	0	do.....	0
9	July 27	5,270,000	7,100	90	24	2	73	1	0	0	0	do.....	0
10	Aug. 6	4,960,000	8,100	88	30	3	65	2	0	0	0	do.....	0
10	Aug. 6	4,930,000	8,200	88	33	2	63	2	0	0	0	do.....	0
11	Aug. 17	4,880,000	9,700	92	30	2	64	4	0	0	0	do.....	0
11	Aug. 17	5,200,000	8,800	93	28	4	62	6	0	0	0	do.....	0
12	Aug. 27	5,480,000	8,700	90	24	3	71	2	0	0	0	do.....	0
12	Aug. 27	5,600,000	7,500	89	29	3	67	1	0	0	0	do.....	0

SUBJECT No. 6.

1	May 7	7,280,000	7,900	92	31	5	61	3	0	0	0	Normal...	0
1	May 7	7,490,000	8,400	90	30	4	64	2	0	0	0	do.....	0
2	May 17	6,640,000	8,900	92	33	2	63	2	0	0	0	do.....	0
2	May 17	6,470,000	8,900	94	32	2	64	2	0	0	0	do.....	0
3	May 27	5,710,000	7,800	95	36	6	57	1	0	0	0	do.....	0
3	May 27	6,170,000	7,100	93	38	4	56	1	0	0	0	do.....	0
4	June 6	5,970,000	8,900	90	25	5	68	2	0	0	0	do.....	0
4	June 6	5,770,000	9,300	88	31	4	64	1	0	0	0	do.....	0
5	June 15	6,050,000	8,900	89	40	2	57	1	0	0	0	do.....	0
5	June 15	6,020,000	8,700	87	39	3	58	1.5	0.5	0	0	do.....	0
6	June 24	5,360,000	9,300	90	39	3	57	0	1	0	0	do.....	0
6	June 24	5,160,000	9,500	90	43	6	50	1	0	0	0	do.....	0
7	July 7	6,000,000	7,900	95	41	2	54	3	0	0	0	do.....	0
7	July 7	6,080,000	7,500	95	44	5	49	2	0	0	0	do.....	0
8	July 13	5,930,000	8,900	88	24	1	74	1	0	0	0	do.....	0
8	July 13	6,130,000	9,300	89	29	3	66	2	0	0	0	do.....	0
9	July 27	5,700,000	9,600	89	32	4	62	2	0	0	0	do.....	0
9	July 27	5,960,000	10,300	87	36	3	60	1	0	0	0	do.....	0
10	Aug. 6	5,570,000	8,500	93	34	4	58	4	0	0	0	do.....	0
10	Aug. 6	5,380,000	8,800	93	41	5	51	3	0	0	0	do.....	0
11	Aug. 17	6,090,000	6,300	96	35	4	58	3	0	0	0	do.....	0
11	Aug. 17	5,970,000	6,000	97	38	3	53	5	0	0	0	do.....	0
12	Aug. 27	6,270,000	10,300	93	37	4	56	3	0	0	0	do.....	0
12	Aug. 27	6,030,000	10,800	90	39	4	56	1	0	0	0	do.....	0

DAILY MEDICAL RECORD.

Daily medical record.

SUBJECT No. 1.

Period.	Date (1910).		Weight (kilos), 7 a. m.	Temperature.		Pulse.		Respiration.		Daily exercise or work.	Appetite.	Bowels, and move- ments. ¹	General medical condition and re- marks.
				12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
1	May	1	85.2	.....	.....	.....	.....	.....	.....	Sunday; col- lege work.	Good..	.....	Good medical condi- tion.
1	May	2	85.2	.....	98.2	84	78	18	18	College work.	.....do..	1 soft..	Do.
1	May	3	83.9	96.4	98.2	78	84	18	18	.....do..	.....do..	None..	Do.
1	May	4	83.9	98.0	97.8	78	84	18	18	.....do..	.....do..	1 soft..	Do.
1	May	5	85.0	97.8	98.2	78	90	18	20	.....do..	.....do..	None..	Do.
1	May	6	85.8	98.0	97.6	84	78	16	16	.....do..	.....do..	1 soft..	Do.
1	May	7	85.7	97.2	98.2	84	78	18	18	.....do..	.....do..	1 hard..	Do.
1	May	8	85.5	98.0	98.4	84	78	18	18	Sunday; col- lege work; carried papers.	.....do..	None..	Do.
1	May	9	85.0	97.6	98.4	78	90	18	18	College work.	.....do..	2 hard	Do.
1	May	10	85.0	98.0	98.0	78	84	18	18	.....do..	.....do..	1 soft..	Do.
2	May	11	85.2	98.0	98.0	84	84	18	18	.....do..	.....do..	.....do..	Do.
2	May	12	85.2	98.0	98.8	78	84	18	18	.....do..	.....do..	.....do..	Do.
2	May	13	85.0	98.0	98.0	84	78	18	18	.....do..	.....do..	.....do..	Do.
2	May	14	84.8	98.0	98.0	78	72	18	18	.....do..	.....do..	.....do..	Do.
2	May	15	85.0	98.6	98.2	84	78	15	.....	Sunday; col- lege work; carried papers.	.....do..	.....do..	Do.
2	May	16	84.6	98.2	97.8	90	84	16	18	College work.	.....do..	.....do..	Do.
2	May	17	84.6	97.8	98.0	84	78	18	20	.....do..	.....do..	.....do..	Do.
2	May	18	84.8	98.0	98.6	84	84	18	18	.....do..	.....do..	None..	Do.
2	May	19	84.8	98.2	99.0	84	78	18	18	.....do..	.....do..	1 soft..	Do.
2	May	20	84.6	99.2	98.0	84	78	20	18	.....do..	.....do..	.....do..	Do.
3	May	21	84.8	98.2	98.6	78	68	18	20	.....do..	.....do..	None..	Do.
3	May	22	84.8	98.0	98.6	78	78	18	18	Sunday; col- lege work; carried papers.	.....do..	1 soft..	Do.
3	May	23	85.0	98.2	97.8	78	84	18	20	College work.	.....do..	.....do..	Good medical condi- tion; examination week.
3	May	24	84.1	98.0	98.0	72	66	18	18	.....do..	.....do..	.....do..	Do.
3	May	25	84.6	98.6	98.8	78	78	18	18	.....do..	.....do..	1 hard	Do.
3	May	26	84.6	97.2	98.2	84	78	18	18	.....do..	.....do..	.....do..	Do.
3	May	27	84.1	98.6	99.2	84	78	18	18	.....do..	.....do..	.....do..	Do.
3	May	28	84.3	98.2	98.0	84	90	18	20	.....do..	.....do..	.....do..	Do.
3	May	29	84.3	98.2	98.2	78	78	18	16	Sunday.	.....do..	1 hard	Good medical condi- tion; vacation begins.
3	May	30	83.9	98.6	99.2	72	78	18	18	.....do..	.....do..	.....do..	Good medical condi- tion.
4	May	31	83.6	98.6	98.2	78	78	18	18	.....do..	.....do..	.....do..	Do.
4	June	1	83.6	98.2	98.0	84	70	18	20	College work.	.....do..	.....do..	Good medical condi- tion; is doing some clinical work in school.
4	June	2	84.1	97.8	98.4	84	72	18	18	.....do..	.....do..	.....do..	Good medical condi- tion.
4	June	3	84.1	97.8	98.8	84	78	18	20	.....do..	.....do..	1 soft..	Do.
4	June	4	84.1	98.0	98.2	78	78	18	20	.....do..	.....do..	1 hard	Do.
4	June	5	84.3	98.2	98.0	84	78	18	18	Sunday; paper route.	.....do..	None..	Do.
4	June	6	84.1	97.6	98.8	78	84	16	18	College work.	.....do..	1 soft..	Do.
4	June	7	84.6	97.6	99.0	84	84	18	18	.....do..	.....do..	None..	Do.
4	June	8	84.1	98.0	98.2	78	78	18	18	.....do..	.....do..	1 hard	Do.
4	June	9	84.3	98.0	98.4	72	84	18	20	.....do..	.....do..	.....do..	Do.
5	June	10	84.1	97.8	99.6	78	78	18	18	.....do..	.....do..	1 soft..	Do.
5	June	11	84.1	98.6	98.6	72	84	16	18	.....do..	.....do..	.....do..	Do.
5	June	12	84.1	98.0	99.1	72	84	16	18	Sunday; col- lege work; paper route.	.....do..	.....do..	Do.
5	June	13	84.1	98.0	99.0	84	78	18	20	College work.	.....do..	1 hard	Do.
5	June	14	84.1	98.8	98.8	78	84	18	18	.....do..	.....do..	1 soft..	Do.
5	June	15	84.1	98.6	98.0	78	84	18	18	.....do..	.....do..	2 soft..	Do.
5	June	16	84.1	98.8	99.4	72	84	18	18	.....do..	.....do..	1 soft..	Do.
5	June	17	84.1	98.4	99.0	84	84	18	18	.....do..	.....do..	None..	Do.
5	June	18	84.1	99.0	98.8	84	84	20	18	.....do..	.....do..	1 soft..	Do.

¹ Number and character in previous 24 hours.

Daily medical record—Continued.

SUBJECT No. 1—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Temperature.		Pulse.		Respiration.		Daily exercise or work.	Appetite.	Bowels, and movements.	General medical condition and remarks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
5	June 19	84.1	98.8	98.4	84	78	18	18	Sunday; college work; paper route.	Good..	1 hard	Good medical condition.
6	June 20	84.1	98.0	98.0	78	78	18	18	College work..	do..	do..	Do.
6	June 21	84.6	98.0	98.6	78	72	18	18	do..	do..	do..	Do.
6	June 22	84.6	98.6	98.8	78	78	18	18	do..	do..	do..	Do.
6	June 23	84.3	98.8	98.8	78	84	18	18	do..	do..	do..	Do.
6	June 24	84.6	98.2	98.2	78	78	18	18	do..	do..	do..	Do.
6	June 25	85.2	98.6	98.6	78	72	18	18	do..	do..	1 soft..	Do.
6	June 26	85.0	98.0	98.8	72	78	18	16	Sunday; college work; paper route.	do..	do..	Do.
6	June 27	84.3	97.6	98.6	66	78	16	18	College work..	do..	None..	Do.
6	June 28	84.3	98.2	98.2	78	72	18	18	do..	do..	1 soft..	Do.
6	June 29	84.1	98.0	98.6	72	78	18	18	do..	do..	do..	Do.
7	June 30	84.1	98.6	99.0	84	84	18	18	do..	do..	do..	Do.
7	July 1	83.6	98.8	98.6	84	84	20	20	do..	do..	do..	Do.
7	July 2	83.4	98.6	98.8	84	84	18	18	do..	do..	do..	Do.
7	July 3	83.6	98.0	98.0	78	72	18	16	Sunday; college work; paper route.	do..	None..	Do.
7	July 4	83.6	98.2	98.8	78	84	16	18	Holiday..	do..	do..	Do.
7	July 5	83.6	98.6	98.8	84	78	16	18	College work..	do..	1 soft..	Do.
7	July 6	84.6	98.4	98.8	78	84	18	18	do..	do..	do..	Do.
7	July 7	84.3	98.6	98.6	84	84	20	18	do..	do..	do..	Do.
7	July 8	84.1	98.6	98.8	84	84	18	20	do..	do..	do..	Do.
7	July 9	84.3	98.6	98.8	84	84	18	18	do..	do..	1 hard..	Do.
8	July 10	84.1	98.0	98.8	72	84	16	18	Sunday; college work; paper route.	do..	1 soft..	Do.
8	July 11	83.6	98.4	98.6	78	84	18	20	College work..	do..	do..	Do.
8	July 12	84.1	98.8	98.6	84	72	18	18	do..	do..	do..	Do.
8	July 13	84.3	98.4	98.6	72	72	16	16	do..	do..	do..	Do.
8	July 14	83.6	98.6	98.8	78	84	18	20	do..	do..	1 hard..	Do.
8	July 15	84.3	98.2	98.6	72	72	16	18	do..	do..	do..	Do.
8	July 16	84.6	98.2	98.6	72	84	18	20	do..	do..	None..	Do.
8	July 17	84.1	98.2	98.2	72	84	18	18	Sunday; college work; paper route.	do..	1 hard..	Do.
8	July 18	84.3	97.0	97.0	72	75	18	18	College work..	do..	1 soft..	Do.
8	July 19	84.6	97.2	97.8	72	78	18	18	do..	do..	None..	Do.
9	July 20	84.6	98.0	98.2	78	84	16	20	do..	do..	1 soft..	Do.
9	July 21	84.1	98.4	98.0	78	84	18	18	do..	do..	1 hard..	Do.
9	July 22	84.1	98.4	98.6	84	84	20	18	do..	do..	1 soft..	Do.
9	July 23	84.1	98.0	98.4	78	84	18	18	do..	do..	do..	Do.
9	July 24	84.2	98.6	98.8	84	90	18	20	Sunday; college work; paper route.	do..	do..	Do.
9	July 25	84.6	98.6	98.8	72	90	16	20	College work..	do..	None..	Do.
9	July 26	84.1	98.8	98.4	84	84	20	20	do..	do..	1 hard..	Do.
9	July 27	84.1	98.6	98.4	78	78	16	18	College work; paper route.	do..	1 soft..	Do.
9	July 28	84.1	98.4	98.6	84	84	20	20	do..	do..	None..	Do.
9	July 29	84.6	98.6	98.4	84	78	20	16	College work..	do..	do..	Do.
10	July 30	84.1	98.6	98.2	90	84	20	20	do..	do..	1 hard..	Nauseated after noon and evening meals; otherwise negative.
10	July 31	84.1	98.2	98.2	78	78	18	18	Sunday; college work.	do..	do..	Good medical condition.
10	Aug. 1	84.1	98.4	98.6	78	84	16	20	Paper route; college work.	do..	1 soft..	Do.
10	Aug. 2	84.1	98.6	98.2	84	72	20	18	College work..	do..	None..	No nausea; good medical condition.
10	Aug. 3	84.1	98.4	98.2	72	78	18	20	do..	do..	1 hard..	Nauseated after evening meal; otherwise good.
10	Aug. 4	84.1	98.2	98.6	72	84	18	20	do..	do..	do..	Nauseated after noon and evening meals.
10	Aug. 5	83.9	98.0	98.0	72	76	18	18	do..	do..	do..	Good medical condition.
10	Aug. 6	83.9	98.0	98.0	72	78	18	16	do..	do..	None..	Do.

Daily medical record—Continued.

SUBJECT No. 1—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appete.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
10	Aug. 7	83.9	98.4	98.0	78	72	18	18	Sunday; col- lege work.	Good..	1 soft..	Good medical con- dition; he says he has had pains in "stomach" a 11 week after taking food with copper.
10	Aug. 8	84.1	98.4	98.4	84	80	20	18	College work..	do...	do...	Good medical con- dition.
11	Aug. 9	83.9	98.8	98.2	90	84	20	18	do...	do...	do...	Do.
11	Aug. 10	83.9	98.6	98.4	84	74	20	16	do...	do...	do...	Do.
11	Aug. 11	83.7	98.4	98.6	84	84	20	20	do...	do...	do...	Nauseated after copper sulphate in beer.
11	Aug. 12	83.9	98.4	98.6	78	78	18	18	do...	do...	do...	Good medical con- dition.
11	Aug. 13	83.9	98.6	98.8	78	72	18	20	do...	do...	do...	Slight nausea after meals with cop- per.
11	Aug. 14	83.6	98.8	98.0	78	72	20	18	Paper route; college work; Sunday.	do...	do...	Good medical con- dition.
11	Aug. 15	83.4	98.8	99.0	78	84	18	20	Paper route; college work.	do...	1 hard.	Good medical con- dition; no nausea.
11	Aug. 16	83.4	98.8	98.8	84	84	20	18	College work..	do...	1 soft..	Some nausea after noon and evening meals.
11	Aug. 17	83.2	98.6	98.4	78	72	18	16	Paper route; college work.	do...	do...	Do.
11	Aug. 18	83.6	98.2	98.0	72	72	18	16	College work..	do...	do...	Slight nausea just while drinking liquid with cop- per in it.
12	Aug. 19	83.2	98.2	98.0	80	78	18	16	Paper route; college work.	do...	do...	Good medical con- dition.
12	Aug. 20	83.0	98.8	98.8	90	90	20	20	Tennis; col- lege work; paper route.	do...	do...	Do.
12	Aug. 21	83.6	98.6	98.0	84	84	20	18	Sunday; col- lege work; paper route.	do...	None..	Good medical con- dition; very hot and sultry day.
12	Aug. 22	82.5	98.8	99.0	90	84	20	20	Paper route; college work.	do...	1 hard.	Do.
12	Aug. 23	83.6	98.8	98.6	90	84	20	18	do...	do...	None..	Do.
12	Aug. 24	82.7	98.8	98.8	90	84	20	18	College work..	do...	1 soft..	Good medical con- dition.
12	Aug. 25	82.7	98.6	98.6	72	84	16	18	do...	do...	do...	Do.
12	Aug. 26	82.7	98.4	98.6	72	78	16	18	College work; paper route.	do...	do...	Do.
12	Aug. 27	82.7	98.6	98.6	78	84	18	20	Paper route; college work.	do...	do...	Do.
12	Aug. 28	82.7	98.2	98.0	84	78	20	18	Sunday; col- lege work; paper route.	do...	do...	Do.
...	Aug. 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 soft..	.....
...	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	None..	.....

SUBJECT No. 2A.

1	May 1	.....	.....	.....	.....	.....	.....	.....	Sunday; col- lege work.	Good..	.....	Good medical con- dition.
1	May 2	72.8	98.0	97.7	70	70	.....	20	College work..	do...	1 soft..	Do.
1	May 3	73.6	97.4	97.4	68	80	18	18	do...	do...	do...	Do.
1	May 4	73.6	97.4	97.2	68	68	18	18	do...	do...	3 soft..	Do.
1	May 5	73.6	97.5	97.4	75	74	20	20	do...	do...	1 soft..	Do.
1	May 6	73.6	97.4	97.4	66	60	18	18	do...	do...	do...	Good medical con- dition; slight amount of acetone in to-day's urine.
1	May 7	73.9	97.8	97.6	66	74	16	16	do...	do...	None..	Good medical con- dition.

Daily medical record—Continued.

SUBJECT No. 2A—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appete. tite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
1	May 8	73.9	97.4	98.0	70	66	16	16	Sunday; col- lege work.	Good..	1 soft..	Good medical con- dition. ¹
1	May 9	73.9	97.6	98.2	70	82	20	20	College work.	...do...	1 hard.	Good medical con- dition; has a slight amount of acetone and albumin to- day.
1	May 10	73.8	97.4	97.4	64	72	18	18	...do.....	...do...	None..	Good medical con- dition; see urine report.
2	May 11	73.6	98.0	97.4	72	60	18	18	...do.....	...do...	1 hard.	Do.
2	May 12	73.9	97.6	98.2	64	60	18	18	...do.....	...do...	...do...	Good medical con- dition.
2	May 13	73.6	97.4	97.6	72	68	18	18	...do.....	...do...	2 hard.	Do.
2	May 14	73.5	97.4	97.6	60	68	18	18	...do.....	...do...	None..	Do.
2	May 15	73.6	97.2	97.4	68	70	18	...	Sunday; col- lege work.	...do...	1 hard.	Do.
2	May 16	73.6	97.8	97.8	70	90	18	18	College work.	...do...	2 hard.	Do.
2	May 17	73.5	97.0	97.2	68	64	20	18	...do.....	...do...	...do...	Do.
2	May 18	73.5	97.6	98.2	60	74	18	18	...do.....	...do...	...do...	Do.
2	May 19	73.0	97.2	98.0	66	80	20	18	...do.....	...do...	...do...	Do.
2	May 20	73.8	97.4	98.0	64	68	18	18	...do.....	...do...	None..	Do.
2	May 21	73.8	97.8	97.8	60	68	20	18	...do.....	...do...	1 soft..	Do.
3	May 22	73.6	98.0	98.6	68	68	20	20	Sunday; col- lege work.	...do...	2 soft..	Do.
3	May 23	73.6	97.4	98.4	60	74	20	20	College work.	...do...	None..	Do.
3	May 24	73.1	98.0	98.0	70	70	18	18	...do.....	...do...	...do...	Good medical con- dition; examina- tion week.
3	May 25	73.2	98.4	97.4	70	90	18	20	...do.....	...do...	1 soft..	Do.
3	May 26	73.2	97.0	97.4	70	80	18	18	Tennis all af- ternoon.	...do...	1 hard.	Do.
3	May 27	73.2	97.4	97.4	68	66	18	18	College work.	...do...	...do...	Do.
3	May 28	73.1	98.0	98.4	65	84	16	18	...do.....	...do...	2 soft..	Examination week; good medical con- dition; vacation begins.
3	May 29	73.1	97.4	98.0	68	60	18	16	Sunday.....	...do...	1 soft..	Good medical con- dition.
3	May 30	73.2	97.6	98.4	60	72	18	20	Tennis.....	...do...	...do...	Do.
4	May 31	73.1	98.2	98.0	70	72	18	18	College work.	...do...	None..	Do.
4	June 1	72.7	97.2	97.6	58	64	16	18	...do.....	...do...	...do...	Good medical con- dition; is doing some clinical and other college work; "quiz class."
4	June 2	72.7	97.8	97.4	68	72	16	18	...do.....	...do...	1 soft..	Good medical con- dition.
4	June 3	73.0	97.6	...	56	...	16	18	...do.....	...do...	...do...	Do.
4	June 4	73.0	98.0	98.0	72	72	18	18	College work.	...do...	...do...	Do.
4	June 5	73.2	97.6	98.4	60	68	16	18	Sunday; col- lege work.	...do...	None..	Do.
4	June 6	73.4	98.2	98.4	60	64	16	16	College work.	...do...	1 soft..	Do.
4	June 7	73.0	97.8	97.8	64	70	16	16	...do.....	...do...	1 hard.	Do.
4	June 8	72.8	98.0	98.2	96	88	20	18	Tennis; col- lege work.	...do...	2 soft..	Do.
4	June 9	72.7	97.4	98.0	64	66	16	16	College work.	...do...	1 hard.	Do.
4	June 10	73.3	98.0	98.0	60	64	16	18	...do.....	...do...	...do...	Do.
5	June 11	72.8	98.0	98.0	72	72	18	18	...do.....	...do...	1 soft..	Do.
5	June 12	72.6	98.2	98.6	72	88	16	18	Sunday; col- lege work.	...do...	None..	Do.
5	June 13	73.0	98.0	98.4	70	72	18	18	College work.	...do...	1 hard.	Do.
5	June 14	72.7	98.2	98.4	58	80	15	18	...do.....	...do...	None..	Do.
5	June 15	73.0	98.0	98.2	72	86	16	20	Tennis; col- lege work.	...do...	None..	Do.
5	June 16	72.6	98.0	98.8	80	104	16	16	College work.	...do...	2 hard.	Do.
5	June 17	71.9	98.4	99.0	90	90	20	20	...do.....	...do...	None..	Do.
5	June 18	72.1	98.0	98.2	70	84	16	18	...do.....	...do...	...do...	Do.

¹ In urine of May 8 a moderate amount of albumin and acetone were found; no diacetic acid. No explanation can be given for this occurrence. There are no casts in the urine. The subject's habits were, as far as can be learned, not different from his present ones, excepting that for almost a year just previously he ate only 2 meals a day, omitting breakfast.

Daily medical record—Continued.

SUBJECT No. 2A—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appete.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
5	June 19	72.2	98.0	98.4	76	70	18	18	Sunday; col- lege work.	Good..	1hard.	Good medical con- dition.
6	June 20	72.3	98.2	98.0	72	64	16	16	College work..	Only fair.	2hard.	(1)
6	June 21	73.2	98.8	98.6	84	72	20	18	....do.....	Fair..	None..	Good medical con- dition; ate some uncoppered peas to-night without nausea.
6	June 22	72.3	98.2	98.4	72	90	16	18	Tennis; col- lege work.	Good..	1hard.	Good medical con- dition.
6	June 23	72.3	98.0	98.6	60	90	16	20	College work..	....do..	2hard.	Do.
6	June 24	71.8	97.6	98.0	84	72	18	16	College work; tennis.	....do..	None..	Do.
6	June 25	72.5	98.2	98.0	72	72	16	20	College work..	....do..	1hard.	Do.
6	June 26	71.8	97.8	97.8	64	66	18	16	Sunday; col- lege work.	....do..	1soft..	Do.
6	June 27	72.3	97.4	98.6	64	90	16	20	College work..	....do..	None..	Do.
6	June 28	72.3	97.6	98.0	66	72	16	18	College work; tennis.	....do..	1hard.	Do.
6	June 29	71.8	98.4	98.0	80	90	20	20	College work..	....do..	1soft..	Do.
7	June 30	71.9	98.0	98.4	80	80	18	....	....do.....	....do..	None..	Do.
7	July 1	72.1	98.0	98.4	72	72	18	....	....do.....	....do..	1hard.	Do.
7	July 2	71.8	98.0	98.0	84	72	20	18	Vacation.....	....do..	None..	Do.
7	July 3	71.1	98.0	97.4	72	80	18	20	Vacation; Sunday.	....do..	2hard.	Do.
7	July 4	71.8	98.4	98.0	78	66	16	18	Holiday.....	....do..	None..	Do.
7	July 5	71.8	98.0	97.8	72	60	18	16	Vacation.....	....do..	....do..	Vomited after sup- per; brought up about 25 c. c. after much effort; had cramps in bowels at same time; see urine chart.
7	July 6	71.8	99.0	98.4	72	90	16	16	....do.....	....do..	1hard.	Good medical con- dition; see urine chart.
7	July 7	71.6	98.0	98.6	66	90	18	20	Tennis.....	....do..	2hard.	Good medical con- dition.
7	July 8	70.9	98.6	98.6	72	90	16	20	Vacation.....	....do..	None..	Do.
7	July 9	71.0	98.4	98.6	80	80	20	18	....do.....	....do..	....do..	Do.
8	July 10	71.4	98.0	....	72	....	16	....	Sunday.....	....do..	1soft..	Do.
8	July 11	....	....	....	....	....	....	....	....do.....	....do..	None..	Do.
8	July 12	71.6	....	....	....	....	....	....	....do.....	....do..	2soft..	Do.

SUBJECT No. 2B.

9	July 20	74.6	97.9	98.0	72	72	20	18	College work..	Good..	.....	Good medical con- dition.
9	July 21	74.6	97.6	98.6	72	80	18	20	....do.....	....do..	1hard.	Do.
9	July 22	74.6	97.8	98.0	72	72	22	20	....do.....	....do..	....do..	Do.
9	July 23	74.6	97.4	98.0	80	72	22	20	....do.....	....do..	2hard.	Do.
9	July 24	74.6	97.8	98.4	70	80	17	20	Sunday; col- lege work.	....do..	1hard.	Good medical con- dition, except has urticaria.
9	July 25	73.6	97.2	98.0	74	84	20	18	College work..	....do..	....do..	Good medical con- dition, except has urticaria very marked.
9	July 26	74.6	97.6	98.4	70	80	18	20	....do.....	....do..	....do..	Good medical con- dition.

¹ Vomited after eating his peas at dinner in the evening. He ate half of them and felt nauseated and stated that he would vomit if he ate the rest of them. He was asked to eat them, and vomited soon after, while at the table. Subjects are now taking about 200 grams of peas a day in two meals. About a week ago No. 2 was much nauseated at night and felt that he would vomit, but after a walk in the air this feeling passed away. Subject No. 2 objects to following the diet scheme. He believes that the vomiting and the lowering of the hemoglobin percentage are conclusive evidence that the ingestion of copper is harmful to him. He expresses the desire to be dropped from the squad.

Daily medical record—Continued.

SUBJECT No. 2B—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appete.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
9	July 27	74.6	97.4	98.4	68	76	18	18	Paper route; college work.	Good..	1 hard.	Good medical condition.
9	July 28	74.6	97.4	98.4	70	80	18	20	.....do.....	.....do.....	.....do.....	Do.
9	July 29	75.2	97.6	98.0	70	80	18	20	College work.	.....do.....	.....do.....	Do.
10	July 30	75.2	97.0	97.6	66	64	16	.....	.....do.....	.....do.....	.....do.....	Nauseated after noon and evening meals.
10	July 31	74.6	97.6	98.2	70	70	18	18	Sunday; college work.	Fair...	2 soft..	Good medical condition. Nausea in this and other subjects came after ingestion of tea containing copper sulphate.
10	Aug. 1	73.0	97.4	98.4	72	80	16	20	College work..	Good..	4 soft..	Diarrhea yesterday and some day before; nauseated after meals; note that appetite is good when sitting down to meals.
10	Aug. 2	73.2	97.8	98.4	72	84	18	18	.....do.....	.....do.....	1 hard.	Good medical condition; no nausea; some diarrhea.
10	Aug. 3	73.6	97.4	98.4	72	80	18	20	.....do.....	Fair...	2 soft..	Nauseated before noon meal and after supper.
10	Aug. 4	73.6	97.6	98.4	70	80	18	20	.....do.....	Good..	1 hard.	Nauseated after noon and evening meals.
10	Aug. 5	73.9	97.4	98.4	70	75	16	18	.....do.....	.....do.....	.....do.....	Severe diarrhea to-day; much pain in bowels.
10	Aug. 6	73.4	97.4	98.4	72	80	16	20	.....do.....	.....do.....	3 diarr- rheal.	Slight nausea after noon and evening meals; diarrhea to-day.
10	Aug. 7	73.2	97.8	.....	88	.....	20	.....	Sunday; college work.	.....do.....	3 soft, 1 hard.	Complains of pressure and bearing-down sensation in rectum.
10	Aug. 8	72.7	97.4	98.4	70	80	18	18	College work..	.....do.....	2 soft..	Nausea after noon and evening meals; has had hives ever since last report on them.
11	Aug. 9	72.7	97.6	98.4	70	80	18	16	.....do.....	.....do.....	1 hard.	Good medical condition, except urticaria.
11	Aug. 10	73.2	97.6	98.0	70	68	18	16	.....do.....	.....do.....	1 soft..	Good medical condition.
11	Aug. 11	73.2	97.6	98.4	70	76	18	20	.....do.....	.....do.....	1 hard.	Good medical condition; takes 5 minims tincture belladonnæ twice a day.
11	Aug. 12	73.2	97.6	98.0	72	72	16	18	.....do.....	.....do.....	.....do.....	Good medical condition; takes 7 minims tincture belladonnæ 3 times to-day; is requested to drink more water.
11	Aug. 13	73.2	98.4	98.2	80	88	18	18	.....do.....	.....do.....	1 soft..	Good medical condition; takes 10 minims tincture belladonnæ 3 times to-day.
11	Aug. 14	73.2	97.8	98.4	72	76	16	18	Sunday; college work.	.....do.....	1 hard.	Do.
11	Aug. 15	74.1	97.8	98.2	62	108	16	20	College work.	.....do.....	2 hard.	Good medical condition.

Daily medical record—Continued.

SUBJECT No. 2B—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Temperature.		Pulse.		Respiration.		Daily exercise or work.	Appetite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
11	Aug. 16	74.1	97.6	98.4	72	72	18	16	College work..	Good..	None..	Good medical condition except urticaria, which is better; 10 minims tincture belladonna 3 times to-day.
11	Aug. 17	74.1	97.6	98.2	72	76	18	18	Tennis; college work.	do..	2 hard.	Do.
11	Aug. 18	74.6	97.2	98.2	72	72	16	18	College work..	do..	1 hard.	Do.
12	Aug. 19	74.6	97.6	98.2	76	76	18	20	do..	do..	2 hard.	Good medical condition; no urticaria.
12	Aug. 20	74.6	98.4	98.6	84	98	20	22	Tennis; college work.	do..	do..	Good medical condition.
12	Aug. 21	74.6	97.6	98.6	76	84	18	16	College work; Sunday.	do..	1 hard.	Good medical condition; very hot, sultry day.
12	Aug. 22	73.6	97.6	98.2	72	90	16	20	College work..	do..	2 hard.	Do.
12	Aug. 23	72.7	97.6	98.6	72	80	16	18	do..	do..	1 soft.	Do.
12	Aug. 24	73.2	98.2	98.6	80	84	20	18	do..	do..	1 hard.	Good medical condition.
12	Aug. 25	73.2	97.8	98.0	72	78	18	18	do..	do..	2 soft.	Do.
12	Aug. 26	73.6	97.6	98.6	72	80	18	20	do..	do..	1 hard.	Do.
12	Aug. 27	73.6	97.6	98.4	72	72	18	18	do..	do..	do..	Do.
12	Aug. 28	73.6	97.6	98.2	74	72	16	18	College work; Sunday.	do..	2 hard.	Do.
...	Aug. 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	1 hard.	Do.
...	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	do..	Do.

SUBJECT No. 3.

1	May 1	45.5	.....	.....	.....	.....	.....	.....	Sunday; college work.	Good..	.....	Good medical condition; does some housework at "squad house."
1	May 2	45.5	97.6	98.0	78	84	.....	22	College work..	do..	1 soft..	Good medical condition.
1	May 3	45.3	96.8	97.2	80	76	22	22	do..	do..	do..	Do.
1	May 4	45.7	96.6	97.4	76	80	20	20	do..	do..	do..	Do.
1	May 5	45.9	98.2	98.2	76	84	18	20	do..	do..	do..	Do.
1	May 6	46.1	97.2	97.4	78	82	20	20	do..	do..	do..	Do.
1	May 7	45.5	97.8	97.2	80	78	20	18	do..	do..	do..	Do.
1	May 8	45.9	97.2	98.2	80	78	20	18	Sunday; college work.	do..	do..	Do.
1	May 9	45.9	96.4	98.0	72	82	18	20	College work.	do..	do..	Do.
1	May 10	45.9	97.2	97.6	82	76	20	20	do..	do..	1 hard.	Do.
2	May 11	45.9	97.4	97.4	80	74	20	20	do..	do..	2 hard.	Do.
2	May 12	45.8	97.8	97.2	82	72	20	20	do..	do..	1 hard.	Do.
2	May 13	45.9	97.2	97.2	74	82	20	20	do..	do..	1 soft.	Do.
2	May 14	45.9	97.4	97.0	76	76	20	20	do..	do..	do..	Do.
2	May 15	45.5	98.2	97.8	80	78	20	.....	Sunday; college work.	do..	do..	Do.
2	May 16	45.7	97.0	98.0	68	76	20	20	College work.	do..	None..	Do.
2	May 17	45.7	96.8	96.8	76	72	18	20	do..	do..	1 soft.	Do.
2	May 18	45.9	97.4	99.0	80	82	20	20	do..	do..	do..	Do.
2	May 19	45.7	97.8	98.2	76	80	20	18	do..	do..	1 hard.	Do.
2	May 20	45.9	97.8	97.6	84	76	20	20	do..	do..	do..	Do.
3	May 21	45.9	97.6	97.8	80	76	20	20	do..	do..	do..	Do.
3	May 22	45.7	98.2	98.4	76	76	18	20	Sunday; college work.	do..	do..	Do.
3	May 23	45.8	98.2	97.0	68	72	18	18	College work.	do..	do..	Good medical condition; examination week.
3	May 24	45.7	97.8	97.0	76	76	20	18	do..	do..	2 soft.	Do.
3	May 25	45.7	97.8	97.8	76	76	20	18	do..	do..	1 soft.	Do.
3	May 26	46.1	97.6	98.0	76	76	20	20	do..	do..	do..	Do.
3	May 27	45.0	97.8	98.0	80	74	18	18	do..	do..	do..	Do.
3	May 28	45.6	97.8	98.2	78	76	18	18	do..	do..	do..	Do.
3	May 29	45.5	98.0	97.8	76	76	16	20	Sunday.	do..	1 hard.	Good medical condition; vacation begins.
3	May 30	45.5	96.8	98.0	63	80	16	20	Tennis.	do..	do..	Do.

Daily medical record—Continued.

SUBJECT No. 3—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respira- tion.		Daily exercise or work.	Appete. tite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
4	May 31	45.0	96.8	98.0	72	76	16	18	Tennis.....	Good..	1 soft..	Good medical con- dition.
4	June 1	45.5	97.8	97.6	78	64	18	18	College work..	...do...	1 hard.	Good medical con- dition; is doing some clinical work at school through- out remainder of time of experi- ment.
4	June 2	45.7	97.6	97.6	68	72	18	18	....do.....	...do...	1 soft..	Good medical con- dition.
4	June 3	45.9	97.6	98.0	76	76	18	18	....do.....	...do...	...do...	Do.
4	June 4	45.9	98.0	98.2	80	76	20	16	....do.....	...do...	2 soft..	Do.
4	June 5	46.1	98.2	98.0	80	76	18	16	Sunday; col- lege work.	...do...	1 hard.	Do.
4	June 6	45.9	98.2	98.0	80	72	18	16	College work..	...do...	2 hard.	Do.
4	June 7	46.1	98.2	98.2	72	80	18	18	....do.....	...do...	1 hard.	Do.
4	June 8	45.4	97.8	97.8	80	72	18	16	....do.....	...do...	...do...	Do.
4	June 9	46.1	98.0	98.2	80	84	18	20	Tennis; college work.	...do...	2 hard.	Do.
5	June 10	46.1	98.0	98.2	78	78	18	18	College work..	...do...	1 hard.	Do.
5	June 11	45.7	98.2	98.0	82	80	18	18	....do.....	...do...	2 hard.	Do.
5	June 12	45.9	98.4	98.1	80	88	18	18	Sunday; col- lege work.	...do...	None..	Do.
5	June 13	45.5	97.8	98.2	72	88	16	20	Tennis; college work.	...do...	1 soft..	Do.
5	June 14	45.9	97.8	98.2	72	88	16	18	College work..	...do...	None..	Do.
5	June 15	46.1	98.4	98.4	72	84	16	20	....do.....	...do...	1 hard.	Do.
5	June 16	46.1	98.4	98.4	72	72	16	18	....do.....	...do...	...do...	Do.
5	June 17	46.4	98.4	99.0	70	80	16	18	....do.....	...do...	...do...	Do.
5	June 18	46.1	98.4	98.4	72	72	18	16	....do.....	...do...	...do...	Do.
5	June 19	46.7	98.4	98.4	76	70	18	16	Sunday; col- lege work.	...do...	...do...	Do.
6	June 20	46.1	98.2	97.8	78	82	18	18	College work..	...do...	1 soft..	Do.
6	June 21	45.8	98.6	98.4	72	78	16	16	....do.....	...do...	1 hard.	Do.
6	June 22	46.6	98.4	98.4	74	74	16	18	....do.....	...do...	1 hard.	Do.
6	June 23	46.1	99.0	98.6	76	74	20	18	....do.....	...do...	1 soft..	Do.
6	June 24	46.1	98.8	98.4	72	74	18	16	....do.....	...do...	None..	Do.
6	June 25	46.0	98.6	98.8	76	74	16	20	Tennis; college work.	...do...	1 soft..	Do.
6	June 26	46.8	98.0	98.0	70	70	18	18	Sunday; col- lege work.	...do...	...do...	Do.
6	June 27	46.1	97.0	97.0	68	70	16	18	College work..	...do...	...do...	Do.
6	June 28	46.4	98.2	98.0	76	80	16	20	Tennis; college work.	...do...	1 hard.	Do.
6	June 29	46.1	99.2	98.6	80	84	18	18	....do.....	...do...	None..	Good medical condi- tion; see monthly examination, "Liver."
7	June 30	46.6	98.2	98.4	80	72	16	18	College work..	...do...	1 soft..	Good medical con- dition.
7	July 1	46.4	99.0	98.6	80	80	20	18	....do.....	...do...	...do...	Do.
7	July 2	46.1	98.4	98.2	80	76	18	16	....do.....	...do...	...do...	Do.
7	July 3	46.4	98.0	97.6	72	80	16	18	Sunday; col- lege work.	...do...	1 hard.	Do.
7	July 4	47.1	97.8	98.4	76	80	18	20	Holiday.....	...do...	1 soft..	Do.
7	July 5	46.1	99.0	98.0	76	80	18	20	College work..	...do...	...do...	Do.
7	July 6	46.4	98.6	98.7	76	82	18	16	Tennis; col- lege work.	...do...	...do...	Do.
7	July 7	46.4	98.4	98.6	72	84	16	18	College work..	...do...	...do...	Do.
7	July 8	46.1	98.2	98.6	76	84	16	20	....do.....	...do...	None..	Do.
7	July 9	46.1	99.0	98.0	84	80	17	18	....do.....	...do...	2 soft..	Do.
8	July 10	46.4	98.4	98.2	80	80	20	20	Sunday; col- lege work.	...do...	1 soft..	Do.
8	July 11	46.1	98.6	98.2	84	76	20	17	College work..	...do...	None..	Do.
8	July 12	46.4	98.8	97.8	80	76	20	18	....do.....	...do...	1 hard, 1 soft.	Do.
8	July 13	46.6	98.2	97.8	76	76	18	18	....do.....	...do...	None..	Do.
8	July 14	46.4	97.6	97.6	76	72	16	16	....do.....	...do...	1 soft..	Do.
8	July 15	46.6	98.0	98.4	76	76	16	16	....do.....	...do...	...do...	Do.
8	July 16	46.4	98.0	98.4	80	76	20	18	....do.....	...do...	None..	Do.
8	July 17	46.4	97.6	98.0	76	80	16	18	Sunday; col- lege work.	...do...	1 soft..	Do.
8	July 18	46.1	98.2	98.2	76	72	16	17	College work..	...do...	None..	Do.

Daily medical record—Continued.

SUBJECT No. 3—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appete.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
8	July 19	46.4	98.6	98.0	76	76	16	18	College work..	Good..	1 soft..	Good medical con- dition; see month- ly examination, "Liver."
9	July 20	46.1	98.4	98.4	76	72	16	16	.....do.....	.....do...	1 hard..	Good medical con- dition.
9	July 21	45.7	98.4	98.4	76	76	16	18	.....do.....	.....do...	1 soft..	Do.
9	July 22	46.1	99.2	98.4	80	72	18	18	.....do.....	.....do...	1 hard..	Do.
9	July 23	46.4	99.0	98.6	80	80	20	18	.....do.....	.....do...	1 soft..	Do.
9	July 24	47.1	98.0	98.8	76	80	18	18	Sunday; col- lege work.	.....do...	1 hard..	Do.
9	July 25	45.9	98.8	98.4	80	76	20	18	College work..	.....do...	2 hard..	Do.
9	July 26	46.4	99.2	98.4	72	76	20	16	.....do.....	.....do...	1 hard..	Do.
9	July 27	46.1	98.8	98.4	76	76	18	18	.....do.....	.....do...	1 soft..	Do.
9	July 28	46.8	98.8	98.8	76	76	18	18	.....do.....	.....do...	None..	Do.
9	July 29	46.1	98.6	98.6	76	84	18	16	.....do.....	.....do...	1 soft..	Good medical con- dition; see month- ly examination, "Liver."
10	July 30	45.9	98.2	98.0	72	84	16	....	.....do.....	.....do...	None..	Was most nauseated after noon and evening meals.
10	July 31	45.5	98.2	98.4	72	80	18	20	Sunday; col- lege work.	Poor..	1 soft..	Nauseated all day; diarrhea with marked pain in bowels.
10	Aug. 1	45.2	98.4	98.4	84	76	18	18	College work..	Fair...	1 liq- uid, 1 hard, 1 soft.	Nauseated after meals; diarrhea; no peas in diet of any subjects to- day.
10	Aug. 2	45.2	98.4	98.4	72	76	16	16	.....do.....	.....do...	3 soft..	No nausea; cramps in bowels rather severe; some diar- rhea.
10	Aug. 3	45.5	98.4	98.8	72	76	16	18	.....do.....	.....do...	1 liq- uid, 1 soft.	Nauseated after din- ner and supper.
10	Aug. 4	45.2	98.4	98.6	76	76	18	18	.....do.....	Good..	1 soft..	Do.
10	Aug. 5	45.2	98.4	98.0	76	72	20	16	.....do.....	.....do...	.....do...	Considerable nausea after noon and evening meals.
10	Aug. 6	46.1	98.8	97.8	78	72	18	16	.....do.....	.....do...	.....do...	Slight nausea after noon and evening meals; much pain in stomach all this and last night; patient says that he sometimes has pain in stomach which is like an "ulcer pain" but never has been as bad as now.
10	Aug. 7	45.5	98.4	98.0	76	76	16	16	Sunday; col- lege work.	Poor..	1 hard..	Slight nausea after noon and evening meals; has good many pains in his bowels; he has had these off and on all week; feels weak and badly.
10	Aug. 8	44.8	98.8	98.4	80	80	20	16	College work..	Not good.	2 soft..	Nausea after noon and evening meals; feels very badly; some diarrhea.
11	Aug. 9	44.8	98.4	98.4	76	72	18	18	.....do.....	Fair...	1 liq- uid, 1 soft.	Good medical con- dition.
11	Aug. 10	45.2	98.4	98.6	72	76	18	18	.....do.....	Good..	None..	Do.
11	Aug. 11	44.6	97.8	98.0	72	76	18	18	.....do.....	Fair...	1 hard..	Only fair.
11	Aug. 12	44.6	98.6	98.9	76	80	16	20	.....do.....	.....do...	1 soft..	Only fair; has not had a proper de- sire for food for a week or more; lacks energy and spirit.

Daily medical record—Continued.

SUBJECT No. 3—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appe- tite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
11	Aug. 13	44.6	98.6	98.6	76	84	18	16	College work..	Fair...	1 soft, 1 hard.	Only fair; has had considerable trouble with bow- els, with tendency to diarrhea.
11	Aug. 14	44.6	98.2	98.6	76	76	16	16	Sunday; col- lege work.	...do...	1 soft..	Lacks energy and spirit; does not complain of any- thing except bowel distur- bance, but does not feel as well as usual for him.
11	Aug. 15	44.8	98.9	98.6	72	72	16	16	College work..	Get- ting better.	None..	Pretty good.
11	Aug. 16	44.8	98.6	98.6	76	72	18	18	...do.....	Good..	1 soft..	Feeling better than in the past 2 weeks; he is brighter and more cheerful and his appetite is better.
11	Aug. 17	45.2	98.6	98.6	72	80	18	16	Tennis; col- lege work.	...do...	...do...	Good medical con- dition.
11	Aug. 18	45.0	98.4	97.8	78	72	18	16	College work..	...do...	2 soft..	Pretty good; is re- gaining his strength and vig- or.
12	Aug. 19	45.0	98.4	98.6	72	72	16	18	...do.....	...do...	1 hard.	Good medical con- dition.
12	Aug. 20	45.2	98.0	98.2	84	80	20	18	...do.....	...do...	...do...	Do.
12	Aug. 21	45.2	98.4	98.6	76	72	20	18	Sunday; col- lege work.	...do...	1 soft..	Good medical con- dition; very hot and sultry day.
12	Aug. 22	44.7	98.6	98.6	72	76	18	18	College work.	...do...	1 hard.	Do.
12	Aug. 23	45.0	98.6	98.8	76	84	16	20	Tennis; col- lege work.	...do...	None..	Do.
12	Aug. 24	45.0	98.2	98.6	72	76	16	18	College work..	...do...	1 hard.	Good medical con- dition.
12	Aug. 25	45.2	98.4	97.8	76	72	16	16	...do.....	...do...	1 soft..	Do.
12	Aug. 26	45.2	98.0	98.2	76	72	18	18	...do.....	...do...	2 hard.	Do.
12	Aug. 27	45.0	98.2	98.6	76	72	18	16	...do.....	...do...	2 soft..	Do.
12	Aug. 28	45.3	98.6	98.2	80	92	18	20	Sunday; col- lege work; tennis.	...do...	1 hard.	Do.
	Aug. 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 soft..	
	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	1 soft..	

SUBJECT No. 4.

1	May 1..	63.8	.....	.....	.....	.....	.....	.....	Sunday; col- lege work.	Good..	.....	Good medical con- dition.
1	May 2..	63.8	98.2	98.2	84	70	.....	22	College work.	...do...	None..	Do.
1	May 3..	64.0	96.8	97.4	64	68	22	22	...do.....	...do...	1 hard.	Do.
1	May 4..	64.0	97.2	97.6	66	78	20	20	...do.....	...do...	...do...	Do.
1	May 5..	64.2	98.2	97.6	60	60	22	20	...do.....	...do...	...do...	Do.
1	May 6..	64.1	97.6	97.4	78	78	16	16	...do.....	...do...	...do...	Do.
1	May 7..	64.4	97.6	98.0	72	78	18	20	...do.....	...do...	...do...	Do.
1	May 8..	63.8	97.8	98.4	82	72	18	20	Sunday; col- lege work.	...do...	2 hard.	Do.
1	May 9..	62.5	97.6	98.0	78	72	18	18	Carried papers; college work.	...do...	1 hard.	Do.
1	May 10..	63.2	98.2	98.0	78	72	18	18	College work..	...do...	...do...	Do.
2	May 11..	63.3	97.2	97.6	74	78	18	18	...do.....	...do...	...do...	Do.
2	May 12..	63.6	97.8	97.4	74	70	18	18	...do.....	...do...	...do...	Do.
2	May 13..	63.3	97.0	97.6	66	66	18	18	...do.....	...do...	...do...	Do.
2	May 14..	63.6	97.2	97.8	70	66	18	18	...do.....	...do...	...do...	Do.
2	May 15..	62.5	97.4	97.4	72	66	18	.....	Sunday; col- lege work; carried pa- pers.	...do...	...do...	Do.

Daily medical record—Continued.

SUBJECT No. 4—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appe- tite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
2	May 16..	62.7	98.0	98.2	72	70	18	18	College work..	Good..	1 hard.	Good medical con- dition.
2	May 17..	62.7	98.0	97.2	70	62	20	18	....do.....	....do..	....do..	Do.
2	May 18..	63.2	97.2	98.8	50	66	20	18	....do.....	....do..	....do..	Do.
2	May 19..	62.7	97.8	98.0	78	74	18	18	....do.....	....do..	2 hard.	Do.
2	May 20..	63.2	98.4	97.4	66	66	18	18	....do.....	....do..	1 hard.	Do.
3	May 21..	63.3	98.2	97.6	68	78	18	18	....do.....	....do..	1 soft..	Do.
3	May 22..	62.4	98.0	98.6	66	72	20	18	Sunday; col- lege work; carried pa- pers.	....do..	None..	Do.
3	May 23..	61.8	97.8	97.8	58	64	20	18	College work..	....do..	....do..	Good medical con- dition; examina- tion week.
3	May 24..	62.7	98.0	97.2	70	60	18	20	....do.....	....do..	1 hard.	Do.
3	May 25..	62.7	97.8	97.8	64	70	18	18	....do.....	....do..	....do..	Do.
3	May 26..	62.7	97.8	98.0	64	72	18	18	....do.....	....do..	1 soft..	Do.
3	May 27..	62.3	97.4	98.0	84	74	18	20	....do.....	....do..	1 hard.	Do.
3	May 28..	62.0	97.4	97.8	76	80	18	18	Tennis p. m.	....do..	....do..	Do.
3	May 29..	62.4	97.4	98.2	64	70	18	18	Sunday.....	....do..	....do..	Good medical con- dition; vacation begins.
3	May 30..	62.7	97.2	97.6	72	70	18	16	Tennis.....	....do..	....do..	Good medical con- dition.
4	May 31..	62.3	97.6	98.0	64	70	18	18	....do.....	....do..	....do..	Do.
4	June 1..	62.7	97.8	97.8	70	72	18	18	College work..	....do..	....do..	Good medical con- dition; is doing some clinical work in school.
4	June 2..	62.7	98.2	97.0	78	66	18	16	....do.....	....do..	1 soft..	Good medical con- dition.
4	June 3..	62.7	97.6	97.8	70	70	18	18	....do.....	....do..	None..	Do.
4	June 4..	62.4	98.0	98.0	66	72	16	18	....do.....	....do..	1 hard.	Do.
4	June 5..	63.0	98.2	98.8	68	68	16	16	Sunday; col- lege work; paper route.	....do..	2 hard.	Do.
4	June 6..	61.8	98.2	98.0	70	72	18	18	College work..	....do..	1 hard.	Do.
4	June 7..	62.5	98.0	98.6	68	78	18	18	....do.....	....do..	None..	Do.
4	June 8..	62.4	98.2	98.2	72	76	18	16	....do.....	....do..	1 hard.	Do.
4	June 9..	63.0	98.0	97.8	70	76	16	16	Tennis; col- lege work.	....do..	....do..	Do.
5	June 10..	63.0	97.8	97.6	66	64	16	18	College work..	....do..	....do..	Do.
5	June 11..	62.8	97.8	98.2	72	80	18	20	....do.....	....do..	2 hard.	Do.
5	June 12..	62.4	97.8	98.8	72	78	18	18	Sunday; col- lege work; paper route.	....do..	1 hard.	Do.
5	June 13..	62.3	98.8	98.6	72	70	18	18	College work..	....do..	....do..	Do.
5	June 14..	62.4	98.2	99.0	72	96	18	20	Tennis; col- lege work.	....do..	....do..	Do.
5	June 15..	62.0	98.0	98.8	70	84	18	20	College work..	....do..	....do..	Do.
5	June 16..	61.7	98.6	98.0	72	90	16	18	....do.....	....do..	....do..	Do.
5	June 17..	61.8	97.8	98.0	72	84	18	20	....do.....	....do..	None..	Do.
5	June 18..	61.4	99.0	98.6	70	72	18	18	....do.....	....do..	1 hard.	Do.
5	June 19..	62.8	97.6	98.0	64	72	16	18	College work; paper route; Sunday.	....do..	....do..	Do.
6	June 20..	61.7	97.6	98.2	66	80	16	18	College work..	....do..	1 hard, 1 soft.	Do.
6	June 21..	62.7	98.6	97.8	78	84	18	20	....do.....	....do..	None..	Do.
6	June 22..	62.5	98.4	97.8	66	74	18	18	College work; tennis.	....do..	3 hard.	Do.
6	June 23..	62.4	98.2	98.6	78	90	18	18	Tennis; col- lege work.	....do..	1 hard.	Do.
6	June 24..	62.2	98.0	98.2	66	72	18	18	College work..	....do..	2 hard.	Do.
6	June 25..	62.8	98.2	97.6	68	90	18	20	Tennis; col- lege work.	....do..	1 hard.	Do.
6	June 26..	62.4	97.8	97.6	60	72	16	18	College work; Sunday; pa- per route.	....do..	....do..	Do.
6	June 27..	63.3	98.2	98.2	72	72	16	18	College work..	....do..	....do..	Do.
6	June 28..	63.3	98.2	98.2	72	84	18	20	Tennis; col- lege work.	....do..	....do..	Do.
6	June 29..	62.2	98.6	98.6	84	90	20	18	....do.....	....do..	None..	Do.

Daily medical record—Continued.

SUBJECT No. 4—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appe- tite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
7	June 30..	61.7	97.8	97.6	84	84	18	18	College work..	Good..	1 hard, 1 soft.	Good medical con- dition.
7	July 1..	61.5	98.6	98.2	78	84	18	20	.....do.....	.....do..	None..	Do.
7	July 2..	62.0	98.2	98.0	70	75	18	18	.....do.....	.....do..	1 hard.	Do.
7	July 3..	61.4	98.2	98.6	78	72	18	18	College work; paper route; Sunday.	.....do..	2 hard.	Do.
7	July 4..	62.0	98.2	98.0	78	66	18	....	Holiday.....	.....do..	1 hard.	Do.
7	July 5..	61.6	98.0	97.2	78	72	18	16	College work..	.....do..	2 hard.	Was nauseated after supper.
7	July 6..	62.0	98.2	98.2	78	84	18	20	Tennis; col- lege work.	.....do..	1 hard.	Good medical con- dition.
7	July 7..	61.7	98.0	98.0	72	72	18	18	College work..	.....do..	None..	Do.
7	July 8..	62.0	98.2	98.6	84	78	18	20	.....do.....	.....do..	1 hard.	Do.
7	July 9..	61.5	98.6	98.6	72	72	18	18	.....do.....	.....do..	.....do..	Do.
8	July 10..	61.8	98.4	99.0	72	84	16	20	College work; paper route; Sunday.	.....do..	.....do..	Do.
8	July 11..	61.3	98.4	98.2	84	78	18	16	College work..	.....do..	.....do..	Do.
8	July 12..	61.8	98.7	98.0	66	66	16	18	.....do.....	.....do..	None..	Do.
8	July 13..	62.0	97.8	97.8	72	84	18	20	College work; tennis.	.....do..	2 hard.	Do.
8	July 14..	61.8	98.4	98.6	78	78	18	18	College work..	.....do..	1 hard.	Do.
8	July 15..	61.5	98.4	98.2	72	72	18	18	.....do.....	.....do..	.....do..	Do.
8	July 16..	61.9	98.6	98.0	64	70	18	18	.....do.....	.....do..	.....do..	Do.
8	July 17..	61.8	97.8	97.8	78	56	18	20	Sunday; col- lege work; paper route.	.....do..	.....do..	Do.
8	July 18	61.5	98.4	98.4	66	66	18	20	College work..	.....do..	.....do..	Do.
8	July 19	61.8	98.2	99.0	66	72	16	18	.....do.....	.....do..	.....do..	Do.
9	July 20	61.1	97.6	98.4	72	84	22	18	.....do.....	.....do..	None..	Do.
9	July 21	60.7	98.6	98.0	72	70	18	18	.....do.....	.....do..	2 hard.	Do.
8	July 22	60.2	98.8	98.8	84	70	18	18	.....do.....	.....do..	None..	Do.
9	July 23	60.7	98.2	98.6	72	72	18	16	.....do.....	.....do..	1 hard.	Do.
9	July 24	60.7	98.6	98.8	84	78	18	20	Paper route; college work; Sun- day.	.....do..	.....do..	Do.
9	July 25	60.0	98.0	98.4	68	72	16	18	College work..	.....do..	.....do..	Do.
9	July 26	60.2	98.0	98.0	72	84	16	20	.....do.....	.....do..	.....do..	Do.
9	July 27	60.0	97.8	98.0	70	66	16	16	.....do.....	.....do..	None..	Do.
9	July 28	60.8	98.8	99.0	84	84	20	20	.....do.....	.....do..	.....do..	Do.
9	July 29	60.5	98.8	98.6	84	90	20	20	.....do.....	.....do..	1 hard.	Do.
10	July 30	60.2	97.8	97.8	62	68	16	....	.....do.....	.....do..	.....do..	Nauseated after- noon and even- ing meals; cramps in bowels; some looseness of bowels.
10	July 31	60.5	97.8	97.8	78	72	18	18	Sunday; col- lege work; paper route.	Poor..	1 liq- uid, 1 hard.	Nauseated after noon and evening meals.
10	Aug. 1	59.8	98.0	98.2	76	72	18	18	College work; paper route.	Good..	2 hard.	Do.
10	Aug. 2	60.2	98.0	98.0	78	74	18	18	College work..	.....do..	None..	Good medical con- dition; no nausea.
10	Aug. 3	60.8	98.0	98.2	60	84	16	18	.....do.....	.....do..	1 hard.	Nausea after noon and evening meals.
10	Aug. 4	60.2	97.8	98.0	72	72	16	18	.....do.....	.....do..	.....do..	Do.
10	Aug. 5	60.5	98.0	98.0	74	70	18	16	College work and papers.	.....do..	.....do..	Do.
10	Aug. 6	60.0	98.0	98.4	78	72	16	18	College work..	.....do..	.....do..	Do.
10	Aug. 7	60.5	97.4	97.0	84	72	20	18	College work; Sunday.	.....do..	.....do..	Do.
10	Aug. 8	60.0	98.0	98.4	90	78	20	16	College work..	.....do..	.....do..	Do.
11	Aug. 9	59.9	98.0	98.4	84	75	18	16	.....do.....	.....do..	.....do..	Good medical con- dition.
11	Aug. 10	60.3	98.2	98.4	78	72	18	18	College work; papers.	.....do..	None..	Do.
11	Aug. 11	60.2	98.0	98.2	76	84	16	20	.....do.....	Fair..	1 hard.	Do.
11	Aug. 12	60.2	98.2	98.4	78	84	18	18	.....do.....	Good..	.....do..	Do.
11	Aug. 13	59.8	98.0	98.4	76	78	18	18	College work..	.....do..	.....do..	Do.
11	Aug. 14	60.2	98.0	98.2	62	74	18	16	College work; paper route; Sunday.	.....do..	None..	Do.

Daily medical record—Continued.

SUBJECT No. 4—Continued.

Period.	Date (1910).	Weight (kilos) 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appete. tite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
11	Aug. 15	60.1	98.1	99.0	78	90	18	20	College work..	Good ¹	1 hard.	Very much nauseated in late part of afternoon and all evening; pain in bowels during the night, followed by diarrhea the following morning.
11	Aug. 16	60.5	99.4	101.3	72	84	16	18	.....do.....	(?)	2 soft, 1 liquid.	Severe diarrhea and pain in bowels all day. ³
11	Aug. 17	57.6	97.4	97.4	84	84	20	18	Small amount of laboratory work.	Little better.	7 liquid.	Much better; some little tenderness in bowels; is very weak.
11	Aug. 18	58.2	97.8	98.2	76	84	20	18	College work..	Fair..	1 soft..	Has considerable pain in bowels all day; is very tired; little diarrhea.
12	Aug. 19	58.4	98.4	98.2	68	58	16	15	.....do.....	.....do...	3 soft..	Has severe cramps in bowels and is very much reduced in strength and vigor.
12	Aug. 20	58.4	97.8	98.2	54	70	16	18	.....do.....	Good..	.....do...	Has cramps in bowels; takes bismuth subnitrate 15 grains every hour for 12 doses.
12	Aug. 21	59.1	98.2	97.8	72	62	18	16	College work; Sunday; paper route.	.....do...	2 soft..	Good medical condition; very hot and sultry day.
12	Aug. 22	59.4	98.4	98.6	62	60	16	16	College work..	.....do...	None..	Good medical condition; no movement of bowels to-day; very hot and sultry.
12	Aug. 23	59.7	98.2	98.6	72	90	18	20	Tennis; college work.	.....do...	1 soft..	Good medical condition; very hot and sultry day.
12	Aug. 24	58.9	98.0	98.2	78	78	16	18	College work..	.....do...	None..	Do.
12	Aug. 25	59.8	98.0	97.8	66	68	16	18	.....do.....	.....do...	.....do...	Do.
12	Aug. 26	60.1	98.0	97.4	68	68	18	18	.....do.....	.....do...	2 hard	Do.
12	Aug. 27	59.6	97.8	98.2	66	72	16	18	.....do.....	.....do...	.....do...	Do.
12	Aug. 28	60.2	98.4	98.0	75	108	18	20	College work; paper route; Sunday.	.....do...	1 hard.	Do.
...	Aug. 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....do...	.....
...	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 hard.	.....

SUBJECT No. 5.

1	May 1	68.8	.....	.....	.....	.....	.....	.....	College work; Sunday.	Good..	.....	Good medical condition.
1	May 2	68.8	.....	97.2	68	72	.....	16	College work..	.....do...	2 hard.	Do.
1	May 3	69.1	97.2	98.0	68	72	16	16	.....do.....	.....do...	None..	Do.
1	May 4	70.5	97.2	97.2	72	72	21	21	.....do.....	.....do...	1 soft..	Do.
1	May 5	70.9	97.2	97.2	72	72	20	20	.....do.....	.....do...	.....do...	Do.
1	May 6	71.1	97.5	97.6	72	72	18	18	.....do.....	.....do...	1 hard.	Do.
1	May 7	71.8	97.2	98.0	72	66	18	20	.....do.....	.....do...	.....do...	Do.
1	May 8	71.0	97.6	97.4	72	66	18	20	College work; Sunday; papers.	.....do...	None..	Do.
1	May 9	71.4	98.2	98.2	66	72	20	20	College work..	.....do...	2 hard.	Do.
1	May 10	70.9	97.8	98.0	72	72	18	18	.....do.....	.....do...	1 hard.	Do.

¹Except at evening meal.²Very poor at noon.

³Some nausea during the day; temperature 101.6 and pulse 84 at 6.30 p. m.; some localized tenderness at appendix, but this organ is not believed to be involved except as a part of the general enteritis; did not eat any supper; was in bed all afternoon and evening; 1 ounce castor oil in orange juice at 6.30 p. m.; temperature 103.4 and pulse 96 at 9 p. m.

Daily medical record—Continued.

SUBJECT No. 5—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Temperature.		Pulse.		Respiration.		Daily exercise or work.	Appetite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
2	May 11	71.1	98.0	97.8	72	72	18	18	College work..	Good..	1 hard.	Good medical con- dition.
2	May 12	70.9	97.8	97.8	72	72	18	18	.....do.....	.....do.....	.....do.....	Do.
2	May 13	71.4	97.2	99.0	72	72	18	18	.....do.....	.....do.....	None.	Do.
2	May 14	70.9	97.0	98.3	72	72	18	18	.....do.....	.....do.....	1 hard.	Do.
2	May 15	70.5	98.1	98.0	74	72	18	18	College work; Sunday; pa- pers.	.....do.....	.....do.....	Do.
2	May 16	70.9	98.1	97.8	72	72	18	18	College work..	.....do.....	.....do.....	Do.
2	May 17	70.7	97.8	97.9	72	72	16	18	.....do.....	.....do.....	.....do.....	Do.
2	May 18	70.7	98.0	98.6	72	74	16	20	.....do.....	.....do.....	.....do.....	Do.
2	May 19	70.7	98.0	98.0	76	66	20	18	.....do.....	.....do.....	None.	Do.
2	May 20	70.9	98.6	98.0	78	72	20	18	.....do.....	.....do.....	1 hard.	Do.
3	May 21	71.1	98.4	98.0	66	84	18	18	.....do.....	.....do.....	None.	Do.
3	May 22	70.9	98.6	98.3	72	66	18	18	College work; Sunday; car- ried papers.	.....do.....	1 hard.	Do.
3	May 23	70.2	98.0	97.6	66	72	18	18	College work..	.....do.....	.....do.....	Good medical con- dition; examina- tion week.
3	May 24	70.5	97.9	98.0	66	68	20	18	.....do.....	.....do.....	.....do.....	Do.
3	May 25	70.0	97.8	98.0	72	72	18	18	.....do.....	.....do.....	.....do.....	Do.
3	May 26	70.2	98.2	98.4	68	72	18	18	.....do.....	.....do.....	.....do.....	Do.
3	May 27	70.2	98.4	98.0	72	72	18	18	.....do.....	.....do.....	.....do.....	Do.
3	May 28	69.6	98.0	98.0	78	78	16	18	.....do.....	.....do.....	.....do.....	Do.
3	May 29	69.8	98.4	98.2	66	72	16	18	Sunday.....	.....do.....	1 soft.	Good medical con- dition; vacation begins.
3	May 30	69.8	98.1	98.0	72	72	18	18	Tennis.....	.....do.....	1 hard.	Good medical con- dition.
4	May 31	69.6	98.4	98.0	72	72	18	18	.....do.....	.....do.....	.....do.....	Do.
4	June 1	69.6	98.0	97.9	76	72	18	18	College work; paper route.	.....do.....	None.	Good medical con- dition; is doing some clinical work in school.
4	June 2	70.0	97.8	97.0	72	72	16	16	.....do.....	.....do.....	1 hard.	Good medical con- dition.
4	June 3	70.0	97.8	97.8	60	60	16	16	College work..	.....do.....	.....do.....	Do.
4	June 4	70.2	98.5	98.5	72	78	18	18	.....do.....	.....do.....	None.	Do.
4	June 5	70.0	98.4	98.4	72	66	18	18	College work; Sunday; pa- per route.	.....do.....	1 hard.	Do.
4	June 6	70.0	97.0	98.0	72	66	18	16	College work..	.....do.....	.....do.....	Do.
4	June 7	70.0	98.0	98.8	66	72	16	18	.....do.....	.....do.....	.....do.....	Do.
4	June 8	70.0	98.0	98.2	72	72	18	18	.....do.....	.....do.....	None.	Do.
4	June 9	70.0	98.0	98.0	72	72	18	18	College work; tennis.	.....do.....	1 hard.	Do.
5	June 10	69.6	97.9	98.0	72	66	18	18	College work..	.....do.....	.....do.....	Do.
5	June 11	70.0	98.2	98.1	72	72	18	18	.....do.....	.....do.....	.....do.....	Do.
5	June 12	70.0	98.0	99.3	66	72	16	18	College work; Sunday; pa- per route.	.....do.....	.....do.....	Do.
5	June 13	69.6	98.0	98.8	66	72	18	16	College work; paper route.	.....do.....	.....do.....	Do.
5	June 14	69.6	98.9	98.4	78	72	20	18	College work..	.....do.....	.....do.....	Do.
5	June 15	69.6	98.2	98.6	78	76	18	18	College work; tennis.	.....do.....	.....do.....	Do.
5	June 16	68.6	98.4	98.6	72	84	18	18	College work..	.....do.....	.....do.....	Do.
5	June 17	68.6	98.0	98.4	72	72	18	16	College work; paper route.	.....do.....	.....do.....	Do.
5	June 18	68.6	98.4	98.4	72	72	18	18	College work..	.....do.....	None.	Do.
5	June 19	68.6	98.0	98.2	66	72	16	18	College work; Sunday; pa- per route.	.....do.....	1 hard.	Do.
6	June 20	69.1	98.4	98.0	72	72	18	18	College work; paper route.	.....do.....	.....do.....	Do.
6	June 21	68.6	98.4	98.4	72	72	18	18	College work..	.....do.....	2 hard.	Do.
6	June 22	69.1	98.2	98.0	72	66	18	18	.....do.....	.....do.....	1 hard.	Do.
6	June 23	69.1	98.4	99.2	72	72	18	18	.....do.....	.....do.....	.....do.....	Do.
6	June 24	69.3	99.0	99.2	72	72	20	18	College work; paper route.	.....do.....	.....do.....	Do.
6	June 25	69.1	98.8	98.5	60	72	16	18	.....do.....	.....do.....	.....do.....	Do.
6	June 26	68.6	98.6	99.0	72	78	16	18	College work; Sunday.	.....do.....	.....do.....	Do.
6	June 27	68.9	99.0	99.0	78	72	18	20	College work; paper route.	.....do.....	None.	Do.

Daily medical record—Continued.

SUBJECT No. 5—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Temperature.		Pulse.		Respiration.		Daily exercise or work.	Appetite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
6	June 28	68.6	98.5	98.0	72	68	18	18	College work..	Good..	1 hard.	Good medical con- dition. Do.
6	June 29	68.6	98.8	99.0	72	72	18	18	College work; paper route.	...do...	None..	
7	June 30	68.4	98.6	99.3	66	66	16	18	...do...	...do...	1 hard.	Do.
7	July 1	68.6	99.6	99.4	72	72	18	18	College work..	...do...	...do...	Do.
7	July 2	68.6	98.6	98.6	76	72	18	16	...do...	...do...	None..	Do.
7	July 3	68.6	98.4	98.0	72	66	16	18	College work; Sunday.	...do...	1 hard.	Do.
7	July 4	67.7	98.0	98.4	72	72	16	18	Holiday.....	...do...	...do...	Do.
7	July 5	68.4	99.2	98.4	66	66	18	18	College work; paper route.	...do...	...do...	Do.
7	July 6	68.4	99.6	98.4	72	72	20	18	College work..	...do...	...do...	Do.
7	July 7	68.0	98.4	98.4	72	68	18	16	...do...	...do...	...do...	Do.
7	July 8	67.5	99.6	99.3	72	72	18	20	...do...	...do...	None..	Good medical con- dition; see urine chart.
7	July 9	67.3	98.8	99.6	72	72	18	20	...do...	...do...	1 hard.	Do.
8	July 10	67.0	98.6	99.6	72	78	18	20	College work; Sunday.	...do...	None..	Good medical con- dition.
8	July 11	67.3	98.6	99.4	72	72	18	16	College work..	...do...	1 hard.	Do.
8	July 12	67.5	98.0	98.6	72	68	18	18	...do...	...do...	None..	Do.
8	July 13	67.5	99.3	98.6	66	72	16	18	...do...	...do...	1 hard.	Do.
8	July 14	67.5	98.6	98.4	72	72	16	18	...do...	...do...	...do...	Do.
8	July 15	67.3	98.6	99.0	78	78	18	18	...do...	...do...	...do...	Do.
8	July 16	67.3	98.6	98.8	72	80	18	18	...do...	...do...	...do...	Says his stomach is upset; is subicteric (?); see urine chart.
8	July 17	67.0	98.4	98.6	72	80	18	20	College work; Sunday.	...do..	None..	Good medical con- dition; see urine chart.
8	July 18	67.3	98.6	98.0	72	66	18	16	College work..	...do..	1 hard.	See urine chart; has severe cramps in bowels; nausea at supper table.
8	July 19	67.3	99.0	98.6	72	72	18	20	...do...	...do...	...do...	Is subicteric; see urine chart; good medical condition
9	July 20	67.3	98.6	98.6	72	72	18	20	...do...	...do...	...do...	See urine chart; sub- ject is subicteric; says his stomach is upset; feels nau- seated at times; this has been for several days.
9	July 21	67.0	99.0	98.4	78.	62	20	18	...do...	...do..	1 soft..	See urine chart; is subicteric; some tendency to diar- rhea.
9	July 22	66.8	99.0	98.4	72	68	18	18	...do...	...do..	None..	Complains that stomach is upset; is subicteric; see urine chart.
9	July 23	66.8	98.6	98.4	72	72	20	18	...do...	...do...	...do..	Do.
9	July 24	67.3	98.6	99.0	72	72	18	22	College work; paper route; Sunday.	...do...	2 hard.	Do.
9	July 25	66.4	99.0	98.4	72	68	20	18	College work; paper route.	...do..	1 hard, 1 soft.	Do.
9	July 26	65.5	98.4	98.0	72	68	18	18	...do...	...do..	1 hard.	See urine chart; says he does not feel well; subject is tired and listless, and has been for several days.
9	July 27	65.5	96.4	98.4	72	68	16	16	...do...	...do..	None..	Good medical con- dition; see urine chart.
9	July 28	65.5	98.6	98.2	72	68	16	18	...do...	...do..	1 hard, 1 soft.	Do.
9	July 29	65.5	98.4	98.4	72	72	16	16	...do...	...do..	1 hard.	Do.
10	July 30	65.5	98.6	97.8	72	66	18	18	...do...	...do..	2 soft..	Nausea after noon and evening meals; lasted all afternoon and night.

Daily medical record—Continued.

SUBJECT No. 5—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respi- ration.		Daily exercise or work.	Appete. tite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
10	July 31	65.9	98.4	98.0	72	68	16	16	College work; paper route; Sunday.	Fair ..	1 soft..	Nausea after noon and evening meals.
10	Aug. 1	65.9	98.4	98.2	72	68	18	18	College work..	Good ..	1 hard.	No nausea; good medical con- dition; see urine chart.
10	Aug. 2	65.9	99.0	98.6	72	72	20	18	....do.....	....do ..	....do ..	Good medical con- dition; see urine chart.
10	Aug. 3	66.1	98.6	98.4	72	72	20	18	....do.....	....do ..	....do ..	Nausea after noon and evening meals; does not feel well; see urine chart.
10	Aug. 4	66.1	98.4	98.8	72	75	16	18	....do.....	....do ..	2 hard.	Do.
10	Aug. 5	65.9	98.6	98.4	72	72	18	18	College work; paper route.	....do ..	1 hard.	Do.
10	Aug. 6	66.1	98.0	98.4	72	68	18	16	....do.....	....do ..	2 hard.	Nausea after noon and evening meals.
10	Aug. 7	65.9	98.6	98.0	72	66	18	18	College work; paper route; Sunday.	....do ..	1 hard.	Was nauseated nearly all day long.
10	Aug. 8	65.9	98.4	98.4	72	75	18	18	College work..	Fair ..	....do ..	Nauseated after noon and evening meals; has not shown any trace of icterus for sev- eral days; see urine chart.
11	Aug. 9	65.9	98.4	98.0	72	70	16	18	....do.....	Good ..	1 hard.	Good medical con- dition; see urine chart.
11	Aug. 10	66.1	98.2	98.0	75	68	18	16	College work; paper route.	....do ..	....do ..	Good medical con- dition.
11	Aug. 11	65.9	98.0	98.2	72	68	18	18	....do.....	Fair ..	1 hard, 2 soft.	Good medical con- dition; some diar- rhea.
11	Aug. 12	66.1	98.6	98.0	72	72	20	18	....do.....	Good ..	3 soft..	Do.
11	Aug. 13	65.5	99.2	98.6	72	90	16	20	College work..	Fair ..	None ..	Does not feel very well; see urine chart.
11	Aug. 14	65.0	99.0	98.6	72	72	20	18	College work; paper route; Sunday.	....do ..	1 hard	Is pretty well tired out; does not com- plain, but is not in his usual health and vigor; there is no trace of ic- terus; see urine chart.
11	Aug. 15	64.8	98.6	98.6	72	68	16	16	College work; paper route.	Good ..	2 hard	Good medical con- dition; see urine chart.
11	Aug. 16	65.0	98.8	98.6	72	72	16	16	College work..	....do ..	None ..	This subject says he is beginning to feel like himself again; his appetite is good and he feels generally very well; see urine chart.
11	Aug. 17	65.0	98.4	98.6	72	72	16	18	College work; paper route; tennis.	....do ..	2 hard	Good medical con- dition; see urine chart.
11	Aug. 18	65.0	98.4	98.6	68	72	17	18	College work; paper route.	....do ..	1 hard	Do.
12	Aug. 19	65.0	98.4	98.0	72	66	16	16	....do.....	....do ..	....do ..	Do.
12	Aug. 21	65.9	98.4	99.2	72	78	18	20	College work; tennis; paper route.	....do ..	....do ..	Do.
12	Aug. 21	65.7	98.2	98.4	68	68	18	18	College work; Sunday; pa- per route.	....do ..	....do ..	Good medical con- dition; very hot and sultry day; see urine chart.

Daily medical record—Continued.

SUBJECT No. 5—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Tempera- ture.		Pulse.		Respira- tion.		Daily exercise or work.	Appete.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
12	Aug. 22	65.7	98.2	98.4	74	70	18	18	College work; paper route.	Good..	None	Good medical con- dition; very hot and sultry day; see urine chart.
12	Aug. 23	65.9	98.4	98.8	72	78	16	18	College work; tennis; pa- per route.	...do..	1 hard	Good medical con- dition; see urine chart; hot and sul- try day.
12	Aug. 24	65.5	98.4	98.6	72	68	18	16	College work..	...do..	None	Good medical con- dition; see urine chart.
12	Aug. 25	65.5	98.4	98.2	72	68	18	18	....do.....	...do..	1 hard	Good medical con- dition.
12	Aug. 26	65.5	98.4	98.6	72	68	16	18	College work; paper route.	...do..	None	Do.
12	Aug. 27	65.7	98.6	98.4	72	68	16	18	....do.....	...do..	2 hard	Good medical con- dition; see urine chart.
12	Aug. 28	66.8	98.4	99.0	72	72	18	20	College work; tennis; Sun- day; paper route.	...do..	1 hard	Do.
	Aug. 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	do..	
	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 soft..	

SUBJECT No. 6.

1	May 2	68.2	98.2	98.2	78	84	....	22	College work; chemical laboratory.	Good..	1 hard.	Good medical con- dition.
1	May 3	67.5	97.0	97.8	90	75	22	18	....do.....	...do..	None..	Do.
1	May 4	67.7	98.0	98.0	90	75	20	20	....do.....	...do..	1 soft..	Do.
1	May 5	67.8	98.4	98.6	80	80	16	16	....do.....	...do..	2 soft..	Do.
1	May 6	67.8	98.0	98.2	84	84	16	16	....do.....	...do..	1 soft..	Do.
1	May 7	68.0	97.4	98.6	90	78	20	16	....do.....	...do..	2 soft..	Do.
1	May 8	68.0	98.6	97.6	84	75	20	16	College work; chemical laboratory; Sunday.	....do..	1 soft..	Do.
1	May 9	67.7	97.6	98.2	90	78	20	18	College work; chemical laboratory.	....do..	do...	Do.
1	May 10	67.6	98.2	98.4	90	78	20	18	....do.....	...do..	1 hard.	Do.
2	May 11	67.6	98.0	98.0	75	75	18	18	College work; laboratory work.	....do..	do...	Do.
2	May 12	67.6	97.8	99.0	78	75	18	18	....do.....	...do..	do...	Do.
2	May 13	67.6	97.8	97.4	84	75	18	18	....do.....	...do..	1 soft..	Do.
2	May 14	67.4	97.4	98.6	75	84	18	20	....do.....	...do..	do...	Do.
2	May 15	67.5	98.6	97.0	75	84	20	....	College work; Sunday; laboratory work.	....do..	do...	Do.
2	May 16	67.6	98.4	98.6	84	78	20	20	College work; laboratory work.	....do..	None..	Do.
2	May 17	67.7	98.2	98.6	90	72	20	18	....do.....	...do..	1 soft..	Do.
2	May 18	67.7	98.0	98.8	90	90	18	20	....do.....	...do..	1 hard.	Do.
2	May 19	67.7	98.4	98.6	84	78	20	18	....do.....	...do..	2 soft..	Do.
2	May 20	67.7	98.0	98.6	84	78	20	18	....do.....	...do..	1 soft..	Do.
3	May 21	67.7	97.8	98.2	78	80	18	18	....do.....	...do..	do...	Do.
3	May 22	68.0	98.6	98.6	78	78	18	20	College work; laboratory work; Sun- day.	....do..	None..	Do.
3	May 23	67.7	98.4	98.4	75	78	18	20	College work; laboratory work.	....do..	2 soft..	Good medical con- dition; examina- tion week.
3	May 24	67.3	98.0	98.6	78	78	18	20	....do.....	...do..	do...	Do.
3	May 25	67.5	98.2	98.8	84	75	18	20	....do.....	...do..	1 soft..	Do.
3	May 26	67.2	97.4	98.2	78	75	20	18	....do.....	...do..	None..	Do.
3	May 27	67.7	98.0	97.4	84	75	20	18	....do.....	...do..	do...	Do.
3	May 28	67.8	97.6	98.0	78	84	18	20	....do.....	...do..	2 soft..	Do.

Daily medical record—Continued.

SUBJECT No. 6—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Temperature.		Pulse.		Respiration.		Daily exercise or work.	Appetite.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
3	May 29	68.0	98.4	98.2	78	78	18	16	Sunday.....	Good..	None..	Good medical con- dition; vacation begins.
3	May 30	67.8	98.2	97.4	78	75	18	18	Laboratory work.	...do..	2 soft..	Good medical con- dition.
4	May 31	67.7	98.6	98.2	78	78	20	16	...do..	...do..	...do..	Do.
4	June 1	67.7	98.2	98.2	84	78	18	16	Laboratory work; col- lege work.	...do..	1 soft..	Good medical con- dition; does some clinical work in school.
4	June 2	67.5	98.0	98.4	78	84	16	18	College work; laboratory work.	...do..	...do..	Good medical con- dition.
4	June 3	67.5	98.0	98.8	84	78	20	18	...do..	...do..	...do..	Do.
4	June 4	67.5	98.0	98.8	84	75	18	18	...do..	...do..	...do..	Do.
4	June 5	67.5	98.0	98.4	78	75	16	18	College work; laboratory work; Sun- day.	...do..	None..	Do.
4	June 6	67.5	98.2	98.6	78	78	20	18	College work; laboratory work.	...do..	1 hard, 1 soft..	Do.
4	June 7	67.8	98.2	98.0	78	84	18	20	...do..	...do..	1 soft..	Do.
4	June 8	67.8	98.0	98.4	84	78	20	18	College work; laboratory work; 9 to 12 p.m. danced.	...do..	2 soft..	Do.
4	June 9	66.9	98.0	98.2	78	75	18	18	College work; laboratory work.	...do..	1 liq- uid.	Do.
5	June 10	67.3	97.9	98.0	72	66	18	18	...do..	...do..	2 soft..	Do.
5	June 11	67.3	98.4	98.0	75	75	18	18	...do..	...do..	1 hard.	Do.
5	June 12	67.4	98.0	99.3	75	90	18	18	College work; Sunday; laboratory work.	...do..	2 soft..	Do.
5	June 13	67.5	97.6	98.8	75	75	18	18	College work; laboratory work.	...do..	1 liq- uid.	Do.
5	June 14	67.7	98.6	98.2	78	75	18	18	...do..	...do..	None..	Do.
5	June 15	67.4	98.0	98.8	75	80	18	18	...do..	...do..	2 liq- uid.	Do.
5	June 16	67.2	98.2	98.6	78	90	16	18	...do..	...do..	2 soft..	Do.
5	June 17	67.3	98.6	99.0	84	90	18	18	...do..	...do..	1 hard.	Do.
5	June 18	67.3	98.2	99.0	84	84	20	18	...do..	...do..	2 liq- uid.	Do.
5	June 19	67.4	98.6	98.4	78	78	18	18	College work; Sunday; laboratory work.	...do..	1 hard.	Do.
6	June 20	67.3	98.6	98.8	90	78	18	18	College work; laboratory work.	...do..	1 liq- uid.	Do.
6	June 21	67.7	98.0	98.6	75	75	18	18	...do..	...do..	...do..	Do.
6	June 22	67.7	98.0	98.6	75	78	20	18	...do..	...do..	1 hard.	Do.
6	June 23	67.6	98.4	98.2	75	75	18	18	...do..	...do..	1 soft..	Do.
6	June 24	67.3	98.2	98.2	84	75	18	18	...do..	...do..	2 liquid	Do.
6	June 25	67.5	98.6	98.6	84	75	18	18	...do..	...do..	1 soft..	Do.
6	June 26	67.7	97.8	98.4	75	75	18	18	College work; laboratory work; Sun- day.	...do..	...do..	Do.
6	June 27	67.5	99.0	98.4	90	78	18	18	College work; laboratory work.	...do..	2 hard	Do.
6	June 28	68.2	98.4	98.4	84	75	18	16	...do..	...do..	2 soft..	Do.
6	June 29	67.5	98.6	98.6	75	84	18	18	...do..	...do..	...do..	Do.
7	June 30	67.3	99.0	98.8	90	75	20	18	...do..	...do..	3 liquid	Do.
7	July 1	67.3	98.6	99.0	75	84	18	20	Laboratory work.	...do..	1 soft..	Do.
7	July 2	67.3	98.4	99.0	84	78	18	18	...do..	...do..	...do..	Do.
7	July 3	67.3	98.4	98.2	75	75	18	18	Laboratory work; Sun- day.	...do..	...do..	Do.

Daily medical record—Continued.

SUBJECT No. 6—Continued.

Period.	Date (1910).	Weight (kilos), 7 a. m.	Temperature.		Pulse.		Respiration.		Daily exercise or work.	Appete.	Bowels, and move- ments.	General medical condition and re- marks.
			12 m.	6 p. m.	12 m.	6 p. m.	12 m.	6 p. m.				
7	July 4	67.3	98.0	99.0	75	90	16	20	Laboratory work; holi- day.	Good..	2 soft..	Good medical con- dition.
7	July 5	67.3	98.6	98.4	75	78	18	18	Laboratory work.	...do...	...do...	Do.
7	July 6	67.5	99.0	98.8	78	75	18	16	...do...	...do...	None..	Do.
7	July 7	67.4	98.8	98.8	90	84	20	18	...do...	...do...	1 hard	Do.
7	July 8	67.3	98.2	99.0	84	84	20	20	...do...	...do...	1 soft..	Do.
7	July 9	67.3	98.8	99.2	90	84	20	20	...do...	...do...	2 soft..	Do.
8	July 10	67.0	98.0	99.0	75	84	18	20	Laboratory work; Sun- day.	...do...	1 soft..	Do.
8	July 11	67.3	99.0	99.0	84	84	18	18	Laboratory work.	...do...	2 soft..	Do.
8	July 12	67.3	99.0	98.6	84	75	20	18	...do...	...do...	1 liquid	Do.
8	July 13	67.5	98.6	98.8	84	75	18	18	...do...	...do...	1 soft..	Do.
8	July 14	67.3	98.4	98.8	75	78	16	20	...do...	...do...	2 soft..	Do.
8	July 15	67.5	98.4	98.4	75	78	18	18	...do...	...do...	None..	Do.
8	July 16	67.2	98.6	98.4	75	80	18	18	...do...	...do...	1 hard, 1 soft.	Do.
8	July 17	67.3	98.2	98.4	75	84	18	20	Laboratory work; Sun- day.	...do...	1 soft..	Do.
8	July 18	67.3	98.6	98.4	84	78	18	18	Laboratory work.	...do...	...do...	Do.
8	July 19	67.7	98.8	98.4	84	75	20	18	...do...	...do...	...do...	Good medical con- dition except di- arrhea.
9	July 20	67.6	98.2	98.4	84	90	20	20	...do...	...do...	4 soft..	Good medical con- dition.
9	July 21	67.0	98.2	98.6	78	78	18	18	...do...	...do...	None..	Do.
9	July 22	67.2	98.6	98.6	75	75	18	18	...do...	...do...	...do...	Do.
9	July 23	67.5	98.6	98.6	84	75	20	18	...do...	...do...	1 soft..	Do.
9	July 24	67.5	98.6	99.0	84	78	20	18	Laboratory work; Sun- day.	...do...	...do...	Do.
9	July 25	67.3	98.4	98.6	75	84	18	18	Laboratory work.	...do...	None..	Do.
9	July 26	67.3	98.8	98.4	84	78	20	18	...do...	...do...	1 hard, 1 soft.	Do.
9	July 27	66.8	98.4	98.2	84	75	20	18	...do...	...do...	None..	Do.
9	July 28	67.2	98.4	98.6	75	84	18	20	...do...	...do...	2 soft..	Do.
9	July 29	66.9	98.6	98.8	78	84	20	20	...do...	...do...	2 hard	Do.
10	July 30	66.8	98.4	98.6	84	75	20	20	...do...	...do...	1 soft..	Least nauseated af- ter noon and even- ing meals.
10	July 31	67.2	98.2	98.6	75	96	18	20	Laboratory work; Sun- day.	Poor..	...do...	Nauseated after noon and evening meals, and some all day.
10	Aug. 1	66.8	98.2	98.4	75	75	18	18	Laboratory work.	Good..	1 liquid	Good medical con- dition; no nausea.
10	Aug. 2	66.8	98.2	98.0	78	75	18	18	...do...	...do...	...do...	Good medical con- dition.
10	Aug. 3	66.9	98.4	98.2	78	80	18	18	...do...	...do...	2 liquid	Nauseated after noon and even- ing meals.
10	Aug. 4	66.6	98.0	98.4	75	78	18	20	...do...	...do...	1 soft..	Do.
10	Aug. 5	66.7	98.4	98.2	78	75	18	18	...do...	...do...	1 hard	Good medical con- dition.
10	Aug. 6	66.9	98.2	98.4	84	75	18	18	...do...	...do...	...do...	Slight nausea after noon and even- ing meals.
10	Aug. 7	66.9	98.2	98.0	80	75	20	18	Laboratory work; Sun- day.	...do...	...do...	Slight nausea after noon and even- ing meals; least af- fected by copper.
10	Aug. 8	66.8	98.2	98.4	84	75	18	18	Laboratory work.	...do...	...do...	Very little nausea.
11	Aug. 9	66.8	98.6	98.4	80	75	18	20	...do...	...do...	...do...	Good medical con- dition.
11	Aug. 10	67.2	98.4	98.2	80	75	20	18	...do...	...do...	1 soft..	Do.
11	Aug. 11	67.3	98.0	97.6	80	75	20	16	...do...	Fair..	1 hard	Do.
11	Aug. 12	66.8	98.4	99.1	75	80	16	20	...do...	Good..	1 soft..	Do.
11	Aug. 13	66.5	98.4	98.4	75	80	18	18	...do...	...do...	1 hard	Do.

PHYSICAL EXAMINATIONS.

Physical examinations.

SUBJECT No. 1.

	Apr. 27.	May 31.	June 29.	July 19.	July 29.	Aug. 18.	Aug. 28.
Weight, kilos.....	88.4.....	83.6.....	84.1.....	84.6.....	84.6.....	83.6.....	82.7.....
Pulse.....	84.....	78.....	78.....	72.....	84.....	80.....	78.....
Character of pulse.....	Small, regular.....	Small, regular.....	Small, regular.....	Small, regular.....	Small, regular.....	Small, regular.....	Small, regular.....
Temperature.....	98.....	98.6.....	98.6.....	97.8.....	98.6.....	98.2.....	98.....
Respiration.....	18.....	18.....	18.....	18.....	20.....	18.....	18.....
Heart.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....
Lungs.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Thyroid.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Liver.....	Edge slightly palpa- ble (?).	Edge slightly palpa- ble (?).	Edge slightly palpa- ble (?).	Edge slightly palpa- ble (?).	Edge slightly palpa- ble (?).	Edge slightly palpa- ble (?).	Do.....
Spleen.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Do.....
Abdomen.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Glands.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Skin.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Nose and throat.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Reflexes.....	Normal.....	Normal.....	Normal.....	Normal.....	Normal.....	Normal.....	Do.....
Miscellaneous and notes.	First weight obtained on a scale at the medical dis- pensary, partly dressed; remain- der of weights from a scale at the "squad house," in night clothes.	Normal.....	Normal.....	This examination made at end of first copper periods.	This examination made at end of copper interval.	Examination made at end of last cop- per periods.	Normal.....

Physical examinations—Continued.

SUBJECT No. 2A.					SUBJECT No. 2B.				
Date	Apr. 27.	May 31.	June 29.	July 12.	Date	July 20.	July 29.	Aug. 18.	Aug. 28.
Weight, kilos.....	75.8.....	73.1.....	71.8.....	71.6.....	Weight, kilos.....	74.6.....	75.2.....	74.6.....	73.6.....
Pulse.....	64.....	70.....	78.....	72.....	Pulse.....	72.....	70.....	76.....	72.....
Character of pulse....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Character of pulse....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....
Temperature.....	97.6.....	98.2.....	98.6.....	98.6.....	Temperature.....	98.....	98.....	97.8.....	98.2.....
Respiration.....	16.....	18.....	18.....	20.....	Respiration.....	18.....	18.....	18.....	18.....
Heart.....	Negative.....	Negative.....	Negative.....	Negative.....	Heart.....	Tendency to irregularity; subject nervous?	Negative.....	Negative.....	Negative.....
Lungs.....	do.....	do.....	do.....	Do.....	Lungs.....	Negative.....	do.....	do.....	Do.....
Thyroid.....	do.....	do.....	do.....	Do.....	Thyroid.....	do.....	do.....	do.....	Do.....
Liver.....	do.....	do.....	do.....	Do.....	Liver.....	do.....	do.....	do.....	Do.....
Abdomen.....	do.....	do.....	do.....	Do.....	Abdomen.....	do.....	do.....	do.....	Do.....
Glands.....	do.....	do.....	do.....	Do.....	Spleen.....	Negative except as below.....	do.....	do.....	Do.....
Skin.....	do.....	do.....	do.....	Do.....	Abdomen.....	Negative.....	do.....	do.....	Do.....
Nose and throat.....	do.....	do.....	do.....	Do.....	Glands.....	Negative.....	do.....	do.....	Do.....
Reflexes.....	Brisk.....	Brisk.....	Brisk.....	Brisk.....	Skin.....	do.....	do.....	do.....	Do.....
Miscellaneous and notes.....	First weight obtained on scale at the medical dispensary, partly dressed; remainder of weights from a scale at the "squad" house, in night clothes.	Brisk.....	Brisk.....	This examination made at the time of the subject's withdrawal from squad.	Reflexes.....	do.....	Has urticaria.....	do.....	Do.....
					Miscellaneous and notes.....	Normal.....	Negative.....	do.....	Do.....
						First examination of new man for No. 2; weight taken at "squad" house, is tender over the appendix and around the umbilicus; has been constipated for 2 days.	This examination made at end of rest period or nonoper interval.	Normal Examination made at end of last cop- per periods.	Normal.....

SUBJECT NO. 3.

Date.....	Apr. 27.	May 31.	June 29.	July 19.	July 29.	Aug. 18.	Aug. 28.
Weight, kilos.....	47.6	45.0	46.1	46.4	46.1	45.0	45.3
Pulse.....	78	72	76	76	72	72	72
Character of pulse.....	Full, regular.	Full, regular.	Full, regular.	Full, regular.	Full, regular.	Full, regular.	Full, regular.
Temperature.....	97.8	98.0	98.6	98.0	98.2	98.4	98.2
Respiration.....	18	16	18	16	18	16	18
Heart.....	Negative.	Negative.	Negative.	Negative.	Negative.	Negative.	Negative.
Lungs.....	do	do	do	do	do	do	Do.
Thyroid.....	do	do	do	do	do	do	Do.
Liver.....	do	do	Distinctly palpable; not tender; negative other-wise.	Distinctly palpable; not tender; negative other-wise.	Distinctly palpable; not tender; negative other-wise.	Distinctly palpable; not tender; negative other-wise.	Can feel liver indistinctly once in 4 or 5 attempts.
Spleen.....	do	do	Negative.	Negative.	Negative.	Negative.	Negative.
Abdomen.....	do	do	do	do	do	do	Do.
Glands.....	do	do	do	do	do	do	Do.
Skin.....	Papular eruption on chest, abdomen, and forehead; had it for 6 years; diagnosis (?).	Papular eruption on chest, abdomen, and forehead; diagnosis (?).	Papular eruption on chest, abdomen, and forehead; diagnosis (?).	Papular eruption on chest, abdomen, and forehead; diagnosis (?).	Papular eruption on chest, abdomen, and forehead; diagnosis (?).	Papular eruption on chest, abdomen, and forehead; diagnosis (?).	Papular eruption on chest, abdomen, and forehead; diagnosis (?).
Nose and throat.....	Negative.	Negative.	Negative.	Negative.	Negative.	Negative.	Negative.
Reflexes.....	Very brisk.	Very brisk.	Very brisk.	Very brisk.	Very brisk.	Very brisk.	Very brisk.
Miscellaneous and notes.....	First weight obtained on a scale at the medical dispensary, partly dressed; remainder of weights from a scale at the "square" house, in night clothes; height 5 feet 2 inches; is a little tender over region of pylorus.	Is a little tender over region of pylorus.	Is a little tender over region of pylorus.	This examination made at end of first copper period; is a little tender over region of pylorus.	This examination made at end of noncopper interval; is a little tender over region of pylorus.	This examination made at end of last copper period; is a little tender over region of pylorus.	Is a little tender over region of pylorus.

Physical examinations—Continued.

SUBJECT No. 4.

Date.....	Apr. 27.	May 31.	June 29.	July 19.	July 29.	Aug. 18.	Aug. 28.
Weight, kilos.....	66.0.....	62.3.....	62.2.....	61.8.....	60.5.....	58.2.....	60.2.....
Pulse.....	66.....	64.....	90.....	72.....	84.....	68.....	92.....
Character of pulse.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....
Temperature.....	98.0.....	98.0.....	98.6.....	99.0.....	99.0.....	98.4.....	98.2.....
Respiration.....	20.....	18.....	20.....	18.....	20.....	16.....	20.....
Heart.....	Slight systolic murmur, otherwise negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....
Lungs.....	.....	.....	.....	.....	.....	.....	.....
Thyroid.....	.....	.....	.....	.....	.....	.....	Do.
Liver.....	.....	.....	.....	.....	.....	.....	Do.
Spleen.....	.....	.....	.....	.....	.....	.....	Do.
Abdomen.....	.....	.....	.....	.....	.....	Negative, except general tenderness.....	Do.
Glands.....	.....	.....	.....	.....	.....	Negative.....	Do.
Skin.....	.....	.....	.....	.....	.....	.....	Do.
Nose and throat.....	.....	.....	.....	.....	.....	.....	Do.
Reflexes.....	Normal or slightly reduced.....	Normal or slightly reduced.....	Brisk in arms, subdued in legs.....	Brisk in arms, subdued in legs.....	Brisk in arms, subdued in legs.....	Brisk in arms, subdued in legs.....	Brisk in arms, subdued in legs.....
Miscellaneous and notes.....	First weight obtained on a scale at the medical dispensary, partly dressed; remainder of weights from a scale at the "squad house," in night clothes.....	.....	.....	This examination made at end of first copper periods.....	This examination made at end of rest period or noncopper interval.....	Examination made at end of last copper period.....	.....

SUBJECT No. 5.

Weight, kilos.....	73.4.....	69.6.....	68.6.....	67.3.....	65.5.....	65.....	66.8.....
Pulse.....	66.....	72.....	72.....	72.....	72.....	72.....	72.....
Character of pulse.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....
Temperature.....	98.6.....	98.4.....	99.....	98.6.....	98.4.....	98.4.....	99.....
Respiration.....	22.....	18.....	18.....	18.....	16.....	16.....	20.....
Heart.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....
Lungs.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Thyroid.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Liver.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Spleen.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Abdomen.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Glands.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Skin.....	Acne only.....	Acne only.....	Acne only.....	Acne only.....	Acne only.....	Acne only.....	Very little acne.
Nose and throat.....	Has large tonsils; negative other- wise.....	Has large tonsils; negative other- wise.....	Has large tonsils; negative other- wise.....	Has large tonsils; negative other- wise.....	Has large tonsils; negative other- wise.....	Has large tonsils; negative other- wise.....	Has large tonsils; negative other- wise.
Reflexes.....	Brisk.....	Brisk.....	Brisk.....	Brisk.....	Brisk.....	Brisk.....	Brisk.
Miscellaneous and notes.....	First weight ob- tained on a scale at the medical dis- pensary, partly dis- dressed; remain- der of weights from scale at the "squad house," in night clothes; right inguinal hernia; truss; no discomfort.			Seems a little sub- cutic; this exami- nation made at end of first copper periods.	This examination made at end of rest period or non- copper interval.	This examination made at end of last copper pe- riods.	

Physical examinations—Continued.

SUBJECT No. 6.

Date.....	Apr. 27.	May 31.	June 29.	July 19.	July 29.	Aug. 18.	Aug. 28.
Weight, kilos.....	70.9.....	67.7.....	67.5.....	67.7.....	66.9.....	67.....	66.8.....
Pulse.....	72.....	78.....	84.....	76.....	78.....	75.....	73.....
Character of pulse.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....	Full, regular.....
Temperature.....	98.....	98.6.....	98.6.....	98.4.....	98.6.....	98.2.....	98.6.....
Respiration.....	21.....	20.....	18.....	18.....	20.....	18.....	18.....
Heart.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....	Negative.....
Lungs.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Thyroid.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Liver.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Spleen.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Abdomen.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Glands.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Skin.....	do.....	do.....	do.....	do.....	do.....	do.....	Do.....
Nose and throat.....	Large reddened tonsils; otherwise negative.....	Large reddened tonsils; otherwise negative.....	Large reddened tonsils; otherwise negative.....	Large reddened tonsils; otherwise negative.....	Large reddened tonsils; otherwise negative.....	Large reddened tonsils; otherwise negative.....	Large reddened tonsils; otherwise negative.....
Reflexes.....	Very brisk.....	Very brisk.....	Very brisk.....	Very brisk.....	Very brisk.....	Very brisk.....	Very brisk.....
Miscellaneous and notes.....	First weight obtained on scale at medical dispensary, partly dressed; remainder of weights from scale at "squad house," in night clothes; has left incomplete inguinal hernia; wore a truss until 20 years of age, not since then; hernia gives him no trouble; much better than it used to be.			This examination made at end of first copper periods.	This examination made at end of rest period or non-copper interval.	This examination made at end of last copper periods.	

SUMMARY OF MEDICAL REPORTS.

PHYSICAL EXAMINATIONS.

Physical examinations of the six subjects were made at monthly intervals, or more frequently when the conditions of the experiment demanded. The results in the examination of subject No. 1 were entirely negative. Those of subject No. 2A and subject No. 2B were likewise within the normal, with the exception of an attack of urticaria in No. 2B, about July 29. This subject has since (around Oct. 6) had a similar attack. Subject No. 3 presented a distinct variation from the normal. On June 29 and on the succeeding three examinations the liver was easily and distinctly palpable, though not tender to speak of. Percussion showed little or no variation from the normal at these times. At the end of the after period the edge of the liver could be felt indistinctly and then only once in four or five attempts. It seems probable that the liver in the latter part of the experiment in subject No. 3 was appreciably enlarged. Subject No. 4 presented only normal findings. Though the patellar reflexes were exceedingly difficult to elicit in this man, they were so through the time of observation. In subject No. 5, with the exception of the subicteric hue, noted in the daily medical chart, there were no physical signs other than the normal. The examination of subject No. 6 gave normal results in every instance.

DAILY MEDICAL CONDITION.

WEIGHTS.

Below are recorded the beginning and end weights, the lowest and the highest, the weights at the end of the first copper periods, those at the end of the mid or rest period, and those at the end of the last copper periods. The average weight per period is also added.

Body weights.

Observation.	Subject No. 1.	Subject No. 2A.	Subject No. 2B.	Subject No. 3.	Subject No. 4.	Subject No. 5.	Subject No. 6.
	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>
Beginning.....	85.2	72.8	74.6	45.5	63.8	68.8	68.2
End.....	82.7	¹ 71.0	73.6	45.3	60.2	66.8	66.8
Lowest.....	82.7	71.0	72.7	44.6	57.6	64.8	65.8
Highest.....	85.8	73.9	75.2	47.1	64.0	71.8	68.2
End of first cop- per periods.....	84.6	¹ 71.0	.....	46.4	61.8	67.3	67.7
End of rest period.....	83.6	.....	75.2	46.1	60.5	65.5	66.9
End of last copper periods.....	83.6	.....	74.6	45.0	58.2	65.0	67.0

¹ End of seventh period.

Average weights by periods.

Period.	Subject No. 1.	Subject No. 2A.	Subject No. 2B.	Subject No. 3.	Subject No. 4.	Subject No. 5.	Subject No. 6.
	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>
1.....	85.0	73.6	.....	45.7	63.8	70.4	67.8
2.....	84.7	73.6	.....	45.8	63.1	70.9	67.6
3.....	84.5	73.3	.....	45.7	62.5	70.2	67.7
4.....	84.1	73.0	.....	45.8	62.6	69.9	67.5
5.....	84.1	72.6	.....	46.1	62.3	69.3	67.4
6.....	84.5	72.3	.....	46.2	62.6	68.9	67.6
7.....	83.9	71.6	.....	46.4	61.7	68.2	67.3
8.....	84.2	.....	.....	46.4	61.7	67.3	67.3
9.....	84.3	.....	74.6	46.3	60.5	66.4	67.2
10.....	84.0	.....	73.6	45.4	60.3	65.9	66.8
11.....	83.7	.....	73.6	44.8	59.7	65.4	66.8
12.....	82.9	.....	73.7	45.1	59.4	65.7	66.7

The lowest weight of subject No. 1 was found at the end of the experiment. The highest was at the beginning. In the case of subject No. 2A, who withdrew from the tests at the end of the seventh period, the lowest weight was found at that time, while the highest in this subject was found at the beginning of the work. Subject No. 2A was lightest in weight in the tenth, eleventh, and early part of the twelfth period, whereas his greatest weights were found at the end of his first period, which was the ninth or the rest period. No. 3's lowest weights were noted in the eleventh period, toward the end of the administration of copper. The highest were found in the rest or ninth period. Subject No. 4 was lightest in the eleventh period, which was after a sick spell, during which castor oil was administered with marked result. This subject had highest weights in the first period. The same variation, lowest in the eleventh period, and highest in the first, was the result of the weighings of subject No. 5. No. 6 was lightest in the twelfth period and heaviest at the beginning.

Subjects Nos. 4 and 5 showed considerable loss of weight throughout the time of observation. Subjects Nos. 1, 2A, 3, and 6 all showed some loss, but it was slight and might be explained on grounds other than the dosage. Subject No. 2B showed a loss as well, but it was insignificant. The fact that these men had all they wished to eat is an important factor, however, in the interpretation of these results, even though the constant diet containing peas sickened them somewhat against the food.

TEMPERATURE, PULSE, AND RESPIRATION.

These were within normal limits throughout, excepting No. 4, which change will be discussed later.

APPETITE.

Subject No. 1 had a good appetite during the whole experiment. It is to be noted that even in the tenth and eleventh periods, during which copper sulphate was administered in solution, the appetites of

all the men were sometimes good when they sat down to eat, even though nausea followed the meal. At these times the men frequently ate less than their usual amounts, anticipating the nausea. Number 1 complained of pain in his stomach after the ingestion of copper sulphate. Subject No. 2 had only a fair appetite on June 20 and 21. On the first day mentioned, No. 2 was sickened at the table and vomited. This occurrence frightened the young man and he decided to withdraw from the squad, as mentioned in detail in the daily medical chart. On July 15 the same subject vomited again, but described his appetite that evening as good as he sat down to the table. It is of importance to add here that this man had albumin in his urine, often in considerable amount, and at times acetone as well. This finding was noted in the first period, before there was any feeding of copper. How much the man's general metabolic and renal disturbance had to do with the vomiting is an open question, but it certainly had some influence. Tests were made for diacetic acid on several occasions when acetone was fairly large in amount, but none was found. These examinations are not noted in the urine chart.

The appetite of No. 2B was only fair during the periods of the administration of copper sulphate in solution. This man, as well as the remaining members of the squad, was frequently nauseated after the meals with copper sulphate.

No. 3 described his appetite as good excepting when copper sulphate was given. At these times his desire for food was almost nil. This young man complained very little, and any facts regarding his appetite had to be drawn from him. He volunteered very little. Toward the end of the first period with coppered peas, he did not eat as well as he should, though he spoke of his appetite as good.

No. 4 had a good appetite throughout, excepting when he was taking copper sulphate, when he ate little and experienced nausea after meals. During the eleventh period this subject had a rather severe enteritis, which interfered much with his appetite.

Subject No. 5 spoke of his appetite as good in the early periods, even when he complained of his stomach as being upset. When copper sulphate was administered he also had some disgust for food. Toward the end of the experiment, in the eleventh period, the appetite became good, but at this time no copper was given to this man because of his loss in weight, his complaints of his stomach, his subicteric hue, and the albumin in his urine. We are inclined to believe that the renal disturbance did not occasion the stomach condition, because at the end, with albumin still in his urine, his appetite was very good. It should be noted that No. 5 was a very rugged young man, who could always eat his share of food. In other experiments, where we have observed this subject, he was constantly one of the best eaters on the squad.

No. 6 had no difficulty with his desire for food. Though disliking the peas in common with the rest of the men, his desire for food was continuously good, excepting during the ingestion of copper sulphate, when he too was nauseated. It is to be noted that this young man and No. 1 took copper sulphate in beer in the eleventh period, but both noticed the nausea following, though No. 1 felt it more than No. 6. An interesting feature is that some of the men, and particularly No. 5, maintain that they can still experience the metallic copper taste in the mouth, 10 days or 2 weeks after taking any copper in the food.

BOWEL MOVEMENTS.

No. 1 and No. 2 were normal in this respect. No. 2A, while taking copper sulphate, had diarrhea on several days. No. 3 had the same phenomenon in the same periods. No. 4 had diarrhea as soon as copper sulphate was begun. During the latter part of the eleventh period this man had a severe enteritis with increased temperature and pulse and pain with diarrhea. This was severe enough that some medication was thought necessary. No. 5 experienced diarrhea during the copper sulphate periods. The movements of No. 6 were normally soft, from one to two passages a day. This tendency to looseness was increased throughout the whole time of the experiment, culminating in a diarrhea on the last day of the first copper periods. During the time of administration of copper sulphate, he likewise had a marked looseness of the bowels. During the twelfth or after period, the movements were more loose than normally, but these free passages were noted on three excessively hot and sultry days. It appears that the copper ingested was a potent factor in the causation of these diarrheas.

GENERAL DAILY MEDICAL CONDITION.

Excepting the nausea after meals, and a slight loss in weight, No. 1 showed no evidences of the effect of copper. As mentioned before, No. 2A showed albumin and at times acetone in his urine. This occurred from the early part of the fore period to the end. The vomiting, noted before, together with some of the results of the blood examinations, frightened this young man and he withdrew from the squad. How much effect the copper had and how much must be ascribed to some underlying disturbance in metabolism or in the kidneys or both, we can not answer. There was little loss of weight in the man and no physical findings or symptoms other than those mentioned. It appears reasonable to believe that the copper aggravated his general condition and caused the nausea and vomiting.

No. 2B, aside from the nausea and diarrhea mentioned, had urticaria, which began in the ninth or rest period and continued until

he was urged to drink more water and until tincture of belladonna had been prescribed. We do not believe that the urticaria was in any way occasioned by copper. This man showed no findings excepting the nausea and diarrhea, and acetone once on August 4 in the tenth period.

No. 3 was much affected by the copper sulphate. The nausea and diarrhea were severe. The young man lost strength and lacked energy and spirit at these times, and felt very bad. The copper in these last periods produced considerable pain in his stomach. During the time of ingestion of coppered peas, this subject was in pretty good condition. It will be recalled that it was in this man that the enlargement of the liver was found. It is likely that some of the copper would be carried to the liver and it is entirely reasonable to believe that the enlargement was in some way due to the ingestion of copper in the food. This subject has had for some time previous to the beginning of this work occasional attacks of pain in the stomach. He had constantly a tender area at the pyloric region, which he asserts has been there for several years. Whether the cause of this tenderness has influenced the physical findings in his case is a question, but it is an entirely feasible hypothesis.

Subject No. 4 lost considerable weight. He too experienced nausea after copper sulphate. After the first administration he had pain in the bowels and some diarrhea. Toward the end of the eleventh period this subject was once much nauseated nearly the whole afternoon and evening and a severe enteritis followed, during which there was an increase in temperature and much pain. This condition persisted for several days, accompanied by a great loss in weight, which the subject fully regained by the end of the experiment. Once, in the seventh period, this man experienced nausea after supper.

Subject No. 5 was considerably affected by the copper. During the ingestion of coppered peas he lost weight, albumin appeared in the urine, which persisted throughout the time of observation, his stomach was "upset," he had a subicteric hue, had some nausea and cramps in his bowels, red and white blood corpuscles were found in his urine, and he did not feel well in general. He seemed tired and worn. During the administration of copper sulphate he too was nauseated and had diarrhea occasionally, and still felt worn out, but the subicteric color disappeared early in the tenth period. It must be remembered that the ninth was a noncopper period and the icterus may have disappeared because of the absence of copper in the food in this ninth period. The condition of this subject was a matter of some concern to the medical attendant, and it was decided to discontinue copper in this young man's diet before the end of the copper periods. On uncoppered food this subject increased in strength and

good spirits, and his appetite and general gastric condition improved so much that he voluntarily stated that he "felt like himself again."

Excepting the diarrhea and nausea after copper sulphate, which have been mentioned, subject No. 6 was not apparently affected by the copper in the food.

GENERAL STUDY OF QUANTITATIVE RESULTS.

In the foregoing pages most of the data obtained directly in the examinations of the urine and feces of the subjects have been given. A few points with reference to the excretion of copper itself remain to be presented. In this place some discussion of the quantitative analyses is in order, and especially with reference to the elimination of nitrogen and sulphur and their distribution.

For the purpose of easier comparison the whole time of the investigation was divided into 12 periods of 10 days each, and our comparisons will be greatly facilitated by considering the mean results secured in each period. It will be recalled that any variation in copper ingestion followed the same division into periods. The question of nitrogen balance will be taken up first.

NITROGEN BALANCE AND UTILIZATION.

Nitrogen balance and utilization.

SUBJECT No. 1.

Periods.	Cu in mgs. daily.	Nitro- gen in food.	Nitro- gen in urine.	Nitro- gen in feces.	Nitro- gen in urine and feces.	Bal- ance.	Nitro- gen in food minus nitro- gen in feces.	Utili- zation.
Fore periods:	<i>Mgs.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Per ct.</i>
1.....	12.52	11.51	1.32	12.83	-0.31	11.20	89.46	
2.....	11.27	9.67	1.30	10.97	+ .30	9.97	88.47	
Mean.....		11.90	10.59	1.31	11.90	- .01	10.59	88.97
Low copper periods:								
3.....	12.03	10.98	9.89	1.21	11.10	- .12	9.77	88.98
4.....	12.57	11.51	9.88	1.04	10.92	+ .59	10.47	90.96
5.....	9.64	10.59	8.72	1.47	10.19	+ .40	9.12	86.12
Mean.....	11.41	11.03	9.50	1.24	10.74	+ .29	9.79	88.69
Medium copper periods:								
6.....	21.28	11.67	9.22	1.14	10.36	+1.31	10.53	90.23
7.....	16.42	11.64	9.15	1.24	10.39	+1.25	10.40	89.35
8.....	17.85	12.24	8.95	1.19	10.14	+2.10	11.05	90.28
Mean.....	18.52	11.85	9.11	1.19	10.30	+1.55	10.66	89.95
Rest period, no copper:								
9.....		10.23	8.91	1.25	10.16	+ .07	8.98	87.78
High copper period:								
10.....	34.83	11.23	9.34	1.34	10.68	+ .55	9.89	88.07
Fourth medium copper period:								
11.....	28.00	11.19	8.84	1.12	9.96	+1.23	10.07	89.99
After period:								
12.....		10.31	8.38	1.14	9.52	+ .79	9.17	88.94

Nitrogen balance and utilization—Continued.

SUBJECT No. 2A.

Periods.	Cu in mgs. daily.	Nitro- gen in food.	Nitro- gen in urine.	Nitro- gen in feces.	Nitro- gen in urine and feces.	Balance.	Nitro- gen in food minus nitro- gen in feces.	Utili- zation.
Fore periods:	Mgs.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Per ct.
1.....	14.29	11.62	1.33	12.97	+1.32	12.94	90.55	
2.....	13.12	10.09	1.22	11.31	+1.81	11.90	90.70	
Mean.....		13.71	10.86	1.29	12.14	+1.57	12.42	90.63
Low copper periods:								
3.....	12.81	12.73	10.37	1.17	11.54	+1.19	11.56	90.81
4.....	12.72	13.91	10.88	1.37	12.25	+1.66	12.54	90.15
5.....	9.97	12.27	10.55	1.38	11.93	+ .34	10.89	88.75
Mean.....	11.83	12.97	10.60	1.31	11.91	+1.06	11.66	89.90
Medium copper periods:								
6.....	2.05	12.39	10.18	¹ 1.06	11.24	+1.15	11.33	91.45
7.....	20.50	12.11	10.33	² 1.39	11.72	.39	10.72	88.52
8.....								
Mean of two periods.....	11.28	12.25	10.26	1.23	11.48	+ .77	11.03	89.99

SUBJECT No. 2B.

Rest period, no copper: 9.....		12.27	11.62	2.02	13.64	-1.37	10.25	83.54
High copper period: 10.....	34.74	12.25	9.49	2.36	11.85	+ .40	9.89	80.74
Fourth medium copper period: 11.....	16.61	14.57	10.49	1.86	12.35	+2.22	12.71	87.23
After period: 12.....		13.50	10.27	1.48	11.75	+1.75	12.02	89.04

SUBJECT No. 3.

Fore periods:								
1.....		13.66	11.01	1.51	12.52	+1.14	12.15	88.95
2.....		11.08	9.47	1.53	11.00	+ .08	9.55	86.19
Mean.....		12.37	10.24	1.52	11.76	+ .61	10.85	87.57
Low copper periods:								
3.....	12.71	11.25	9.89	1.39	11.28	- .03	9.86	87.65
4.....	12.98	13.54	10.25	1.47	11.72	+1.82	12.07	89.14
5.....	10.68	12.31	9.80	1.44	11.24	+1.07	10.87	88.30
Mean.....	12.12	12.37	9.98	1.43	11.41	+ .95	10.93	88.36
Medium copper periods:								
6.....	21.73	11.77	9.79	1.02	10.81	+ .96	10.75	91.33
7.....	16.74	11.43	9.23	1.63	10.86	+ .57	9.80	85.74
8.....	17.12	12.54	9.74	1.25	10.99	+1.55	11.29	90.03
Mean.....	18.53	11.91	9.59	1.30	10.89	+1.03	10.61	89.03
Rest period, no copper:								
9.....		10.37	8.99	1.19	10.18	+ .19	9.18	88.52
High copper period:								
10.....	34.96	7.69	7.38	1.22	8.70	-1.01	6.37	82.83
Fourth medium copper period:								
11.....	16.11	9.02	6.96	1.15	8.11	+ .91	7.87	87.23
After period:								
12.....		10.04	7.09	1.23	8.37	+1.67	8.76	87.25

¹ Including vomitus (0.02).² Including vomitus.

Nitrogen balance and utilization—Continued.

SUBJECT No. 4.

Periods.	Cu in mgs. daily.	Nitro- gen in food.	Nitro- gen in urine.	Nitro- gen in feces.	Nitro- gen in urine and feces.	Bal- ance.	Nitro- gen in food minus nitro- gen in feces.	Utili- zation.
Fore periods:	<i>Mgs.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Per ct.</i>
1.....		11.74	10.59	0.78	11.37	+0.37	10.96	93.36
2.....		10.07	8.93	1.02	9.95	+ .12	9.05	89.87
Mean.....		10.91	9.76	.90	10.66	+ .25	10.01	91.62
Low copper periods:								
3.....	13.01	9.60	8.18	1.25	9.43	+ .17	8.35	86.98
4.....	12.72	11.21	8.32	.99	9.31	+1.90	10.22	91.17
5.....	10.62	10.78	8.23	1.40	9.63	+1.15	9.38	87.01
Mean.....	12.12	10.53	8.24	1.21	9.46	+1.07	9.32	88.39
Medium copper periods:								
6.....	21.68	10.07	7.79	.90	8.69	+1.38	9.17	91.05
7.....	16.59	9.88	7.85	1.16	9.01	+ .87	8.72	88.28
8.....	17.31	10.77	7.91	1.20	9.11	+1.66	9.57	88.86
Mean.....	18.53	10.24	7.85	1.09	8.94	+1.30	9.15	89.40
Rest period, no copper:								
9.....		9.37	8.83	1.15	9.98	- .61	8.22	87.73
High copper period:								
10.....	34.87	9.18	7.84	1.51	9.35	- .17	7.67	83.55
Fourth medium copper period:								
11.....	11.39	8.22	7.61	1.65	9.26	-1.04	6.57	79.93
After period:								
12.....		8.86	7.41	.91	8.32	+ .54	7.95	89.73

SUBJECT No. 5.

Fore periods:								
1.....		13.66	11.45	1.35	12.80	+0.86	12.31	90.12
2.....		12.23	10.47	1.18	11.65	+ .58	11.05	90.35
Mean.....		12.95	10.96	1.27	12.23	+ .72	11.68	90.24
Low copper periods:								
3.....	13.16	10.80	10.06	1.38	11.44	— .64	9.42	87.22
4.....	12.79	12.97	9.99	1.17	11.16	+1.81	11.80	90.98
5.....	10.44	12.18	10.69	1.51	12.20	— .02	10.67	87.60
Mean.....	12.13	11.98	10.25	1.35	11.60	+ .38	10.63	88.60
Medium copper periods:								
6.....	22.12	11.85	10.69	1.28	11.97	— .12	10.57	89.20
7.....	16.63	12.45	10.93	.99	11.92	+ .53	11.46	92.05
8.....	17.29	11.85	10.10	1.34	11.44	+ .41	10.51	88.69
Mean.....	18.68	12.05	10.57	1.20	11.78	+ .27	10.85	89.98
Rest period, no copper:								
9.....		10.64	9.90	1.55	11.45	— .81	9.09	85.43
High copper period:								
10.....	35.07	11.56	8.52	1.96	10.48	+1.08	9.60	83.04
Fourth medium copper period:								
11.....		10.45	8.01	1.54	9.55	+ .90	8.91	85.26
After period:								
12.....		11.76	6.97	1.46	8.43	+3.33	10.30	87.59

SUBJECT No. 6.

Fore periods:								
1.....	12.16	10.89	1.47	12.36	-0.20	10.69	87.91	
2.....	12.03	9.73	1.81	11.54	+ .49	10.22	84.95	
Mean.....	12.10	10.31	1.64	11.95	+ .15	10.46	86.43	

Nitrogen balance and utilization—Continued.

SUBJECT No. 6—Continued.

Periods.	Cu in mgs. daily.	Nitro- gen in food.	Nitro- gen in urine.	Nitro- gen in feces.	Nitro- gen in urine and feces.	Bal- ance.	Nitro- gen in food minus nitro- gen in feces.	Utili- zation.
Low copper periods:	Mgs.	Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	Per ct.
3.....	13.57	11.94	10.01	1.36	11.37	+ .57	10.58	88.61
4.....	12.86	11.67	9.78	1.48	11.26	+ .41	10.19	87.32
5.....	10.51	11.64	9.01	1.78	10.79	+ .85	9.86	84.71
Mean.....	12.31	11.75	9.60	1.54	11.14	+ .61	10.21	86.88
Medium copper periods:								
6.....	22.09	11.80	8.84	1.56	10.40	+1.40	10.24	86.78
7.....	16.41	11.44	8.96	1.88	10.84	+ .60	9.56	83.57
8.....	17.54	11.49	8.47	1.52	9.99	+1.50	9.97	86.77
Mean.....	18.68	11.58	8.76	1.65	10.41	+1.17	9.92	85.71
Rest period, no copper:								
9.....		9.98	8.16	1.62	9.78	+ .20	8.36	83.77
High copper period:								
10.....	35.19	10.92	8.86	1.83	10.69	+ .23	9.09	83.24
Fourth medium copper period:								
11.....	28.00	10.90	8.41	1.96	10.37	+ .53	8.94	82.02
After period:								
12.....		10.41	8.04	1.73	9.77	+ .64	8.68	83.38

SUMMARY FROM THE TABLE.

Subject No. 1. The nitrogen balance for the first fore period is negative, while for the second it is plus to about the same value. The drop in the nitrogen ingestion, already referred to, from the first to the second fore period, is evident, but the average intake of protein is essentially the same as in the first of the dosage periods. It is noteworthy that for this man the periods of lowest protein intake were the rest period and the after period, with no dosage. After the beginning of the experiment the copper dosage does not appear to affect the nitrogen consumption.

The nitrogen balances are mostly plus, and average pretty high in the periods of medium copper administration. In general, the utilization of nitrogen must be called good, and there are no marked changes throughout. The lowest utilization is found in the rest period, but possibly we have here an effect extending over from the previous dosage periods. On the whole, however, it is not possible to connect the copper with any appreciable change in the nitrogen elimination in the urine or in the feces.

Subjects No. 2.—It will be recalled that two men served as subjects under No. 2, designated as No. 2A and No. 2B. No. 2A started in with a relatively high protein intake, which dropped in the second period, and held pretty constant through the first copper periods. But as a distaste for food increased with him and nausea became very frequent, the copper dosage was dropped in the first medium copper

period, after the first day, to be resumed in the second of these periods, with administration of copper sulphate in milk, in place of coppered peas. This dosage he was able to follow through this period, but in the eighth period he was dropped because of the frequent occurrence of nausea and evident indisposition.

Considering the purely chemical findings, we recognize nothing pointing to an effect of the copper. The nitrogen balances are plus and the utilization relatively high. The nitrogen elimination in the feces is not high or unusual.

With subject No. 2B the time was rather short for satisfactory comparisons, but it is worthy of note that in the high dosage period the urinary nitrogen was low while that of the feces was relatively high. The utilization is therefore low. This further peculiarity is evident that, beginning with a negative balance in the fore or rest period, it becomes better in the high or medium dosage periods. The low utilization remains as the most suggestive phenomenon for this man.

Subject No. 3.—With this subject the general results seem normal through the periods when copper was administered in the peas alone. The balances and utilizations are much as might be expected from an ordinary diet. In fact, it appears that in the copper periods there was an improvement in the utilization over the fore period. With the beginning of the high dosage, with copper sulphate, there is a recognizable change. The protein consumption drops immediately, and we have in the period of highest dosage a negative balance with low utilization. In the eleventh period, medium copper dosage, this man took copper in the form of peas again, and we find an improvement in the protein intake, in the nitrogen balance, and in the utilization. The conclusion seems warranted that for this subject the administration of copper as sulphate is followed by abnormal changes in the metabolism.

Subject No. 4.—With this man the protein consumption, the nitrogen balance, and the utilization values appear to be pretty regular and normal through the fore period and the low and medium copper periods. In the rest period, however, there is a diminished nitrogen intake, a negative balance, and a somewhat lowered utilization. In the high copper period, the tenth, the food nitrogen is lowered and the utilization drops to 83.55 per cent. The dosage here is largely with copper sulphate, it will be recalled. In the eleventh period the nitrogen intake is further lowered, with a marked negative balance and utilization below 80 per cent. This, coupled with the fact that in the following after period, although the nitrogen intake is still low, the balance becomes plus and the utilization satisfactory, would suggest that the copper dosage is not without effect in this case. The effect

of the copper sulphate of the tenth period seems to extend over into the eleventh, when the administration was in the form of peas.

Subject No. 5.—There is nothing specially noteworthy in the results obtained with this subject until the rest period is reached. Here we have a situation much like that of No. 4. There is a lowered protein consumption, a negative balance, and a diminished utilization. If these changes may be referred to the dosage it would have to be interpreted that its effect is not immediate but somewhat delayed in manifestation. The drop in the nitrogen may be in part accounted for by the fact that the peas themselves furnished an amount of nitrogen going up to 1.5 grams per day. In the rest period this disappeared, with no corresponding increase of nitrogen from other sources. In the high copper period, with improvement in the nitrogen intake, there is an increased loss in the feces and a markedly lowered utilization. The utilization is unsatisfactory in the eleventh period, without dosage, but is much improved in the after period. In this subject, as in others, there is apparently some relation between the ingestion of copper sulphate and the lowered nitrogen utilization.

Subject No. 6.—In this man there is the same drop in the nitrogen intake, following the medium copper dosage, as has just been referred to. The utilizations are not, in general, as good as for the other men through the earlier periods, but they drop in the ninth period and remain lowered throughout. It will be noted at the same time that there is an increased loss of nitrogen with the feces. From the table of copper dosage given at the outset, it will be seen that this subject took all his copper in the eleventh period, and most of it in the tenth period, in the form of copper sulphate. This fact very probably accounts for the unfavorable utilization of these two periods, which extends over into the after period.

A consideration of all the facts just presented would suggest that copper administered in the form of greened peas is followed by little or no change in the nitrogen balance or the utilization, while the dosage with copper sulphate has, in several cases, an apparently marked effect in lowering the extent of the nitrogen utilization.

DISTRIBUTION OF NITROGEN.

Weight distribution of nitrogen in urine.

SUBJECT No. 1.

Periods.	Cu in mgs. daily.	Total nitro- gen.	Urea nitro- gen.	Creati- nine nitro- gen.	Am- monia nitro- gen.	Uric- acid nitro- gen.	Purine nitro- gen.	Un- deter- mined nitro- gen.
Fore periods:	<i>Mgs.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>
1.....		11.51	9.47	0.716	0.527	0.190	0.106	0.50
2.....		9.67	7.76	.689	.486	.174	.104	.46
Mean.....		10.59	8.62	.703	.507	.182	.105	.48
Low copper periods:								
3.....	12.03	9.89	8.00	.686	.514	.182	.089	.42
4.....	12.57	9.88	7.99	.626	.478	.178	.108	.50
5.....	9.64	8.72	6.92	.662	.444	.172	.113	.41
Mean.....	11.41	9.50	7.64	.658	.479	.177	.103	.44
Medium copper periods:								
6.....	21.28	9.22	7.33	.682	.486	.186	.108	.43
7.....	16.42	9.15	7.32	.596	.488	.187	.113	.45
8.....	17.85	8.95	7.13	.575	.457	.204	.115	.47
Mean.....	18.52	9.11	7.26	.618	.477	.192	.112	.45
Rest period, no copper:								
9.....		8.91	7.15	.592	.472	.211	.080	.41
High copper period:								
10.....	34.83	9.34	7.55	.564	.530	.184	.097	.41
Fourth medium copper period:								
11.....	28.00	8.84	7.07	.575	.510	.191	.073	.42
After period:								
12.....		8.38	6.67	.572	.425	.153	.120	.44

SUBJECT No. 2A.

Fore periods:								
1.....		11.62	9.67	0.709	0.583	0.170	0.047	0.44
2.....		10.09	8.22	.702	.520	.163	.042	.44
Mean.....		10.86	8.95	.706	.552	.167	.045	.44
Low copper periods:								
3.....	12.81	10.37	8.54	.701	.558	.177	.033	.36
4.....	12.72	10.88	9.00	.668	.514	.170	.042	.49
5.....	9.97	10.55	8.78	.670	.504	.167	.046	.38
Mean.....	11.83	10.60	8.77	.680	.525	.171	.040	.41
Medium copper periods:								
6.....	2.05	10.18	8.42	.711	.488	.161	.059	.34
7.....	20.50	10.33	8.59	.625	.532	.153	.060	.37
Mean of two periods.....	11.28	10.26	8.51	.668	.510	.157	.060	.36

SUBJECT No. 2B.

Rest period, no copper:								
9.....		11.62	9.72	0.638	0.547	0.196	0.056	0.46
High copper period:								
10.....	34.74	9.49	7.61	.622	.567	.148	.067	.48
Fourth medium copper period:								
11.....	16.61	10.49	8.56	.654	.561	.179	.054	.48
After period:								
12.....		10.27	8.46	.643	.429	.182	.071	.48

Weight distribution of nitrogen in urine—Continued.

SUBJECT No. 3.

Periods.	Cu in mgs. daily.	Total nitro- gen.	Urea nitro- gen.	Creati- nine nitro- gen.	Am- monia nitro- gen.	Uric- acid nitro- gen.	Purine nitro- gen.	Un- deter- mined nitro- gen.
Fore periods:	<i>Mgs.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>
1.....	11.01	9.47	0.455	0.427	0.119	0.070	0.47	
2.....	9.47	8.06	.409	.432	.119	.061	.39	
Mean.....		10.23	8.77	.432	.430	.119	.066	.43
Low copper periods:								
3.....	12.71	9.89	8.52	.409	.440	.133	.064	.32
4.....	12.98	10.25	8.79	.380	.412	.136	.066	.47
5.....	10.68	9.80	8.39	.392	.416	.136	.079	.39
Mean.....	12.12	9.98	8.57	.394	.423	.135	.070	.39
Medium copper periods:								
6.....	21.73	9.79	8.37	.408	.411	.127	.065	.39
7.....	16.74	9.23	7.84	.374	.426	.121	.101	.37
8.....	17.12	9.74	8.35	.350	.395	.154	.082	.41
Mean.....	18.53	9.59	8.19	.377	.411	.134	.089	.39
Rest period, no copper:								
9.....		8.99	7.62	.353	.389	.139	.089	.40
High copper period:								
10.....	34.96	7.38	6.14	.331	.348	.055	.135	.37
Fourth medium copper period:								
11.....	16.11	6.96	5.73	.348	.369	.057	.111	.34
After period:								
12.....		7.09	5.88	.349	.294	.089	.098	.38

SUBJECT No. 4.

Fore periods:								
1.....		10.59	8.91	0.627	0.478	0.154	0.032	0.39
2.....		8.93	7.34	.586	.454	.139	.026	.38
Mean.....		9.76	8.13	.607	.466	.147	.029	.39
Low copper periods:								
3.....	13.01	8.18	6.67	.580	.430	.137	.029	.33
4.....	12.72	8.32	6.66	.554	.428	.151	.034	.49
5.....	10.62	8.23	6.70	.572	.406	.144	.047	.36
Mean.....	12.12	8.24	6.68	.569	.421	.144	.037	.39
Medium copper periods:								
6.....	21.68	7.79	6.20	.591	.442	.124	.056	.38
7.....	16.59	7.85	6.30	.534	.418	.145	.064	.39
8.....	17.31	7.91	6.39	.500	.390	.176	.058	.40
Mean.....	18.53	7.85	6.30	.542	.417	.148	.059	.39
Rest period, no copper:								
9.....		8.83	7.27	.504	.406	.176	.051	.42
High copper period:								
10.....	34.87	7.84	6.35	.477	.426	.116	.063	.41
Fourth medium copper period:								
11.....	11.39	7.61	6.05	.496	.447	.136	.050	.43
After period:								
12.....		7.41	5.91	.505	.339	.181	.056	.42

Weight distribution of nitrogen in urine—Continued.

SUBJECT No. 5.

Periods.	Cu in mgs. daily.	Total nitro- gen.	Urea nitro- gen.	Creati- nine nitro- gen.	Am- monia nitro- gen.	Uric- acid nitro- gen.	Purine nitro- gen.	Un- deter- mined nitro- gen.
Fore periods:	<i>Mgs.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>
1.....	11.45	9.57	0.717	0.424	0.155	0.119	0.46	
2.....	10.47	8.64	.685	.417	.138	.115	.47	
Mean.....		10.96	9.11	.701	.421	.147	.117	.47
Low copper periods:								
3.....	13.16	10.06	8.30	.667	.422	.145	.098	.43
4.....	12.79	9.99	8.12	.638	.429	.166	.104	.53
5.....	10.44	10.69	8.87	.658	.450	.164	.110	.44
Mean.....	12.13	10.25	8.43	.654	.434	.158	.104	.47
Medium copper periods:								
6.....	22.12	10.69	8.87	.689	.450	.174	.107	.40
7.....	16.63	10.93	9.08	.601	.485	.178	.110	.48
8.....	17.29	10.10	8.30	.546	.438	.194	.118	.50
Mean.....	18.68	10.57	8.75	.612	.458	.182	.112	.46
Rest period, no copper:								
9.....		9.90	8.10	.566	.448	.201	.095	.49
High copper period:								
10.....	35.07	8.52	6.77	.552	.437	.134	.115	.51
Fourth medium copper period:								
11.....		8.01	6.30	.554	.441	.139	.102	.47
After period:								
12.....		6.97	5.46	.513	.331	.147	.106	.41

SUBJECT No. 6.

Fore periods:								
1.....		10.89	9.07	0.672	0.542	0.128	0.089	0.39
2.....		9.73	7.94	.627	.526	.121	.083	.43
Mean.....		10.31	8.51	.650	.534	.125	.086	.41
Low copper periods:								
3.....	13.57	10.01	8.28	.608	.532	.138	.063	.39
4.....	12.86	9.78	7.98	.586	.525	.136	.082	.47
5.....	10.51	9.01	7.28	.593	.534	.144	.078	.38
Mean.....		12.31	9.60	.596	.530	.139	.074	.41
Medium copper periods:								
6.....	22.09	8.84	7.07	.600	.516	.147	.097	.41
7.....	16.41	8.96	7.25	.546	.548	.134	.106	.38
8.....	17.54	8.47	6.76	.507	.557	.162	.090	.3
Mean.....		18.68	8.76	7.03	.551	.540	.148	.39
Rest period, no copper:								
9.....		8.16	6.54	.515	.496	.142	.087	.38
High copper period:								
10.....	35.19	8.86	7.14	.514	.571	.136	.099	.40
Fourth medium copper period:								
11.....	28.00	8.41	6.76	.517	.495	.117	.094	.43
After period:								
12.....		8.04	6.48	.518	.446	.112	.123	.36

Percentage distribution of nitrogen in urine.

SUBJECT No. 1.

Periods.	Cu in mgs. daily.	Total nitro- gen.	Urea nitro- gen.	Creati- nine nitro- gen.	Am- monia nitro- gen.	Uric- acid nitro- gen.	Purine nitro- gen.	Un- deter- mined nitro- gen.
Fore periods:	<i>Mgs.</i>	<i>Grams.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>
1.....	11.51	82.28	6.22	4.58	1.64	0.92	4.35	
2.....	9.67	80.25	7.13	5.03	1.80	1.08	4.76	
Mean.....		10.59	81.27	6.68	4.81	1.72	1.00	4.56
Low copper periods:								
3.....	12.03	9.89	80.89	6.94	5.20	1.84	.90	4.25
4.....	12.57	9.88	80.87	6.34	4.84	1.80	1.09	5.06
5.....	9.64	8.72	79.36	7.59	5.09	1.97	1.03	4.70
Mean.....	11.41	9.50	80.37	6.96	5.04	1.87	1.10	4.67
Medium copper periods:								
6.....	21.28	9.22	79.50	7.40	5.27	2.02	1.17	4.66
7.....	16.42	9.15	80.00	6.51	5.33	2.04	1.24	4.92
8.....	17.85	8.95	79.67	6.43	5.11	2.28	1.29	5.25
Mean.....	18.52	9.11	79.72	6.78	5.24	2.11	1.23	4.94
Rest period, no copper:								
9.....		8.91	80.25	6.64	5.30	2.37	.90	4.60
High copper period:								
10.....	34.83	9.34	80.84	6.04	5.67	1.97	1.04	4.39
Fourth medium copper period:								
11.....	28.00	8.84	79.98	6.55	5.77	2.16	.83	4.75
After period:								
12.....		8.38	79.60	6.83	5.07	1.83	1.43	5.25

SUBJECT No. 2A.

Fore periods:								
1.....		11.62	83.22	6.10	5.02	1.46	0.40	3.79
2.....		10.09	81.47	6.96	5.15	1.62	.42	4.36
Mean.....		10.86	82.35	6.53	5.09	1.54	.41	4.08
Low copper periods:								
3.....	12.81	10.37	82.36	6.76	5.38	1.71	.32	3.47
4.....	12.72	10.88	82.72	6.14	4.72	1.56	.39	4.50
5.....	9.97	10.55	83.22	6.35	4.78	1.58	.44	3.60
Mean.....	11.83	10.60	82.77	6.42	4.96	1.62	.38	3.86
Medium copper periods:								
6.....	2.05	10.18	82.71	6.98	4.79	1.58	.58	3.34
7.....	20.50	10.33	83.16	6.05	5.15	1.48	.58	3.58
Mean for two periods.....	11.28	10.26	82.94	6.52	4.97	1.53	.58	3.46

SUBJECT No. 2B.

Rest period, no copper:								
9.....		11.62	83.65	5.49	4.71	1.69	0.48	3.96
High copper period:								
10.....	34.74	9.49	80.19	6.55	5.97	1.56	.71	5.06
Fourth medium copper period:								
11.....	16.61	10.49	81.60	6.23	5.35	1.71	.51	4.58
After period:								
12.....		10.27	82.88	6.26	4.18	1.77	.69	4.67

Percentage distribution of nitrogen in urine—Continued.

SUBJECT No. 3.

Periods.	Cu in mgs. daily.	Total nitro- gen.	Urea nitro- gen.	Creati- nine nitro- gen.	Am- monia nitro- gen.	Uric- acid nitro- gen.	Purine nitro- gen.	Un- deter- mined nitro- gen.
Fore periods:	<i>Mgs.</i>	<i>Grams.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>
1.....	11.01	86.01	86.01	4.13	3.88	1.08	0.64	4.27
2.....	9.47	85.11	85.11	4.32	4.56	1.26	.64	4.12
Mean.....		10.23	85.56	4.23	4.22	1.17	.64	4.20
Low copper period:								
3.....	12.71	9.89	86.15	4.14	4.45	1.34	.65	3.24
4.....	12.98	10.25	85.76	3.71	4.02	1.33	.64	4.59
5.....	10.68	9.80	85.61	4.00	4.24	1.39	.81	3.98
Mean.....	12.12	9.98	85.84	3.95	4.24	1.35	.70	3.94
Medium copper periods:								
6.....	21.73	9.79	85.50	4.17	4.20	1.30	.87	3.98
7.....	16.74	9.23	84.94	4.05	4.62	1.31	1.09	4.01
8.....	17.12	9.74	85.73	3.59	4.06	1.58	.84	4.21
Mean.....	18.53	9.59	85.39	3.94	4.29	1.40	.93	4.07
Rest period, no copper:								
9.....		8.99	84.76	3.93	4.33	1.55	.99	4.45
High copper period:								
10.....	34.96	7.38	83.20	4.48	4.72	.75	1.83	5.01
Fourth medium copper period:								
11.....	16.11	6.96	82.33	5.00	5.32	.82	1.59	4.89
After period:								
12.....		7.09	82.93	4.92	4.15	1.26	1.38	5.36

SUBJECT No. 4.

Fore periods:								
1.....		10.59	84.14	5.92	4.51	1.45	0.30	3.68
2.....		8.93	82.20	6.56	5.08	1.56	.29	4.26
Mean.....		9.76	83.17	6.24	4.80	1.51	.30	3.97
Low copper periods:								
3.....	13.01	8.18	81.54	7.09	5.26	1.67	.35	4.03
4.....	12.72	8.32	80.05	6.66	5.14	1.81	.41	5.89
5.....	10.62	8.23	81.41	6.95	4.93	1.75	.57	4.37
Mean.....	12.12	8.24	81.00	6.90	5.11	1.74	.44	4.76
Medium copper periods:								
6.....	21.68	7.79	79.59	7.59	5.67	1.59	.72	4.88
7.....	16.59	7.85	80.25	6.80	5.32	1.85	.82	4.97
8.....	17.31	7.91	80.78	6.32	4.93	2.23	.73	5.06
Mean.....	18.53	7.85	80.21	6.90	5.31	1.89	.76	4.97
Rest period, no copper:								
9.....		8.83	82.33	5.71	4.60	1.99	.58	4.76
High copper period:								
10.....	34.87	7.84	80.99	6.08	5.43	1.48	.80	5.23
Fourth medium copper period:								
11.....	11.39	7.61	79.50	6.52	5.87	1.79	.66	5.65
After period:								
12.....		7.41	79.76	6.82	4.57	2.44	.76	5.67

Percentage distribution of nitrogen in urine—Continued.

SUBJECT No. 5.

Periods.	Cu in mgs. daily.	Total nitro- gen.	Urea nitro- gen.	Creati- nine nitro- gen.	Am- monia nitro- gen.	Uric- acid nitro- gen.	Purine nitro- gen.	Un- deter- mined nitro- gen.
Fore periods:	Mgs.	Grams.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
1.....	11.45	83.58	6.26	3.70	1.35	1.04	4.02	
2.....	10.47	82.52	6.54	3.98	1.32	1.10	4.49	
Mean.....		10.96	83.05	6.40	3.84	1.34	1.07	4.26
Low copper periods:								
3.....	13.16	10.06	82.51	6.63	4.19	1.44	.97	4.27
4.....	12.79	9.99	81.28	6.39	4.29	1.66	1.04	5.32
5.....	10.44	10.69	82.97	6.16	4.21	1.53	1.03	4.12
Mean.....	12.13	10.25	82.25	6.39	4.23	1.54	1.01	4.57
Medium copper periods:								
6.....	22.12	10.69	82.97	6.44	4.21	1.63	1.00	3.74
7.....	16.63	10.93	83.08	5.50	4.44	1.63	1.01	4.39
8.....	17.29	10.10	82.18	5.41	4.34	1.92	1.17	4.95
Mean.....	18.68	10.57	82.74	5.78	4.33	1.73	1.06	4.36
Rest period, no copper:								
9.....		9.90	81.82	5.72	4.53	2.02	.96	4.95
High copper period:								
10.....	35.07	8.52	79.46	6.48	5.13	1.57	1.35	5.99
Fourth medium copper period:								
11.....		8.01	78.65	6.92	5.51	1.74	1.27	5.87
After period:								
12.....		6.97	78.34	7.36	4.75	2.11	1.52	5.83

SUBJECT No. 6.

Fore periods:								
1.....		10.89	83.29	6.17	4.98	1.18	0.82	3.58
2.....		9.73	81.60	6.44	5.41	1.24	.85	4.42
Mean.....		10.31	82.45	6.31	5.20	1.21	.84	4.00
Low copper periods:								
3.....	13.57	10.01	82.72	6.07	5.31	1.38	.63	3.90
4.....	12.86	9.78	81.59	5.99	5.37	1.39	.84	4.81
5.....	10.51	9.01	80.80	6.58	5.93	1.60	.87	4.22
Mean.....	12.31	9.60	81.70	6.21	5.54	1.46	.78	4.31
Medium copper periods:								
6.....	22.09	8.84	79.98	6.79	5.84	1.66	1.09	4.64
7.....	16.41	8.96	80.92	6.09	6.12	1.50	1.18	4.24
8.....	17.54	8.47	79.81	5.99	6.58	1.91	1.06	4.60
Mean.....	18.68	8.76	80.24	6.29	6.18	1.69	1.11	4.49
Rest period, no copper:								
9.....		8.16	80.15	6.31	6.08	1.74	1.07	4.66
High copper period:								
10.....	35.19	8.86	80.59	5.80	6.44	1.54	1.11	4.51
Fourth medium copper period:								
11.....	28.00	8.41	80.38	6.15	5.89	1.39	1.12	5.11
After period:								
12.....		8.04	80.60	6.44	5.55	1.39	1.53	4.48

SUMMARIES FROM THE TABLES.

In the two sets of tables just given we have the distribution of the nitrogen in the urine presented in two forms; first in simple weight proportions and then in the form of percentage distribution. In regard to the weight distribution it is plain that important relations are not as easily recognized as in the other mode of presentation, but a few results are clear even here; for example, the peculiar alteration in the uric acid and purine excretions in subjects Nos. 3 and 6 in the late dosage periods. Certain points may be brought out by a consideration of the percentage distribution.

Subject No. 1.—In this man there is no noteworthy change in the amount of urea nitrogen, as the limits are 79.60 per cent and 82.28 per cent, the higher figure corresponding to the higher food nitrogen of the first fore period. The creatinine nitrogen suffers but little alteration, but there is apparently a noticeable increase in the ammonia nitrogen of the tenth and the eleventh periods. The significance of this is not evident. The undetermined nitrogen shows but slight change from beginning to end, the extremes being 4.25 per cent and 5.25 per cent. No effect of dosage is clearly shown by the data for this man.

Subjects No. 2.—In subject No. 2A there seems to be no appreciable irregularity in the nitrogen distribution or the undetermined nitrogen of the urine. In No. 2B there is the same increase in the ammonia nitrogen in the high copper periods that was noticed for subject No. 1. There is a little drop in the urea in the tenth period, but this corresponds to lower protein intake and lower total nitrogen.

Subject No. 3.—In the earlier periods of the study the nitrogen distribution of this man seemed to present nothing abnormal. The urea elimination is remarkably regular, and the same may be said of the creatinine, ammonia, and uric acid. But the high copper dosage is followed by some changes which in part depend on the diminished nitrogen intake. The lower urea percentage and correspondingly higher values for other factors are in this sense to be expected. But we have the low uric acid and abnormally high purine value, already referred to, which are quite noteworthy. In the medical discussion it has been shown that this man shows certain other deviations from the normal in the last weeks of our study. It is likely that some change in the enzymic activity of the liver has followed here which delayed the change of the first-formed purines into uric acid. It is possible that traces of copper carried to the liver were responsible for this. A copper balance sheet to be given later seems to show some degree of copper retention with this man which may have an important bearing on the explanation. The

results suggest an unfavorable action of the copper, when given in the higher dosage, which extends over into the after period.

Subject No. 4.—In this subject the variations in the normal distribution are but slight. There seems to be a slight relative increase in the ammonia nitrogen in the copper periods, and some relative increase in the purine nitrogen compared with the uric-acid nitrogen. The purine nitrogen is in general low, but in the tenth, or highest, copper period it comes up to over one-half as much as the uric-acid nitrogen. This fact, taken in connection with the last case, may have some significance.

Subject No. 5.—The situation with this case is similar to that in the last. In the periods when copper was given in peas only there appears to be no easily recognized modification in the metabolism or distribution of nitrogen. But in the high copper period the uric acid goes down, relatively, and the purine nitrogen up. There is also a relative increase in ammonia which extends over into the next period. The general condition of this man seemed to warrant the withdrawal of the copper from his diet at the end of the tenth period. The distribution figures appear to bear out the notion of an abnormal condition.

Subject No. 6.—The values for the urea portion of the nitrogen remain pretty constant throughout, but we have at the same time an increase in the ammonia in the high copper period. The ammonia is high in the medium copper periods also, but goes back in the after period. There is also a relative increase in the purine nitrogen at the expense of the uric-acid nitrogen in all the higher copper periods, and this extends over into the after period. This may have some connection with the fact that the excretion of the copper with the feces was rather slow in this man.

The data on distribution appear to show that the copper in the peas has little or no action in changing the normal distribution. Copper, as sulphate, however, seems to modify the relation of purine nitrogen to uric-acid nitrogen in several cases and to give rise to an increased amount of ammonia nitrogen in some cases. These facts are undoubtedly connected with others to be pointed out.

DISTRIBUTION OF SULPHUR.

Distribution of sulphur by weight and per cent.

SUBJECT No. 1.

Periods.	Cu daily.	Total sulphur.	Weight.			Per cent.		
			Inorganic sulphur.	Neutral sulphur.	Ethereal sulphur.	Inorganic sulphur.	Neutral sulphur.	Ethereal sulphur.
Fore periods:	<i>Mgs.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>
1.....		0.783	0.587	0.148	0.053	74.49	18.78	6.73
2.....		.661	.482	.131	.048	72.92	19.82	7.26
Mean.....		.725	.535	.140	.051	73.79	19.31	7.03
Low copper periods:								
3.....	12.03	.657	.474	.134	.049	72.15	20.40	7.46
4.....	12.57	.666	.476	.141	.049	71.47	21.17	7.36
5.....	9.64	.626	.445	.138	.043	71.09	22.05	6.87
Mean.....	11.41	.650	.465	.138	.047	71.54	21.23	7.23
Medium copper periods:								
6.....	21.28	.657	.467	.149	.040	71.08	22.68	6.09
7.....	16.42	.671	.484	.146	.041	72.13	21.71	6.11
8.....	17.85	.622	.428	.145	.049	68.81	23.31	7.88
Mean.....	18.52	.650	.460	.147	.043	70.77	22.67	6.62
Rest period, no copper:								
9.....		.696	.494	.156	.046	70.98	22.41	6.61
High copper period:								
10.....	34.83	.692	.489	.157	.045	70.66	22.69	6.50
Fourth medium copper period:								
11.....	28.00	.735	.534	.155	.045	72.65	21.09	6.12
After period:								
12.....		.641	.456	.132	.053	71.14	20.59	8.27

SUBJECT No. 2A.

Fore periods:								
1.....		0.839	0.635	0.146	0.058	75.69	17.40	6.91
2.....		.750	.556	.140	.054	74.13	18.67	7.20
Mean.....		.795	.596	.143	.056	74.97	17.99	7.04
Low copper periods:								
3.....	12.81	.748	.564	.125	.059	75.40	16.71	7.89
4.....	12.72	.762	.581	.133	.049	76.25	17.45	6.43
5.....	9.97	.751	.587	.107	.057	78.16	14.25	7.59
Mean.....	11.83	.754	.577	.122	.055	76.53	16.18	7.29
Medium copper periods:								
6.....	2.05	.756	.591	.114	.052	78.18	15.08	6.88
7.....	20.50	.764	.587	.125	.053	76.83	16.36	6.94
8.....								
Mean of two periods.....	11.28	.760	.589	.120	.053	77.50	15.79	6.97

SUBJECT No. 2B.

Rest period, no copper:								
9.....		0.871	0.652	0.160	0.059	74.86	18.37	6.77
High copper period:								
10.....	34.74	.696	.488	.162	.046	70.12	23.28	6.61
Fourth medium copper period:								
11.....	16.61	.783	.578	.151	.055	73.82	19.29	7.02
After period:								
12.....		.799	.590	.156	.052	73.84	19.52	6.51

Distribution of sulphur by weight and per cent—Continued.

SUBJECT No. 3.

Periods.	Cu daily.	Total sulphur.	Weight.			Per cent.		
			Inorganic sulphur.	Neutral sulphur.	Ethereal sulphur.	Inorganic sulphur.	Neutral sulphur.	Ethereal sulphur.
Fore periods:	Mgs.	Gram.	Gram.	Gram.	Gram.	Per ct.	Per ct.	Per ct.
1.....		0.791	0.635	0.110	0.046	80.28	13.91	5.82
2.....		.683	.532	.096	.055	77.89	14.06	8.05
Mean.....		.737	.584	.103	.051	79.24	13.97	6.92
Low copper periods:								
3.....	12.71	.729	.534	.097	.048	80.11	13.31	6.58
4.....	12.98	.706	.558	.091	.057	79.04	12.89	8.07
5.....	10.68	.726	.584	.086	.056	80.44	11.85	7.71
Mean.....	12.12	.720	.575	.091	.054	79.86	12.64	7.50
Medium copper periods:								
6.....	21.73	.720	.571	.102	.046	79.31	14.17	6.39
7.....	16.74	.678	.531	.100	.048	78.32	14.75	7.08
8.....	17.12	.695	.539	.105	.050	77.56	15.11	7.19
Mean.....	18.53	.698	.547	.102	.048	78.37	14.61	6.88
Rest period, no copper:		.706	.544	.111	.051	77.06	15.72	7.22
High copper period:								
10.....	34.96	.529	.377	.095	.057	71.27	17.96	10.77
Fourth medium copper period:								
11.....	16.11	.507	.377	.092	.039	74.36	18.15	7.69
After period:								
12.....		.582	.431	.098	.053	74.06	16.84	9.11

SUBJECT No. 4.

Fore periods:								
1.....		0.783	0.605	0.130	0.048	77.27	16.60	6.13
2.....		.650	.490	.116	.043	75.39	17.85	6.62
Mean.....		.717	.548	.123	.046	76.43	17.15	6.42
Low copper periods:								
3.....	13.01	.612	.458	.107	.047	74.84	17.48	7.68
4.....	12.72	.613	.450	.118	.045	73.41	19.25	7.34
5.....	10.62	.638	.487	.100	.051	76.33	15.67	7.99
Mean.....	12.12	.621	.465	.108	.048	74.88	17.39	7.73
Medium copper periods:								
6.....	21.68	.581	.431	.106	.045	74.18	18.24	7.75
7.....	16.59	.597	.437	.114	.046	73.20	19.10	7.71
8.....	17.31	.603	.438	.111	.055	72.64	18.41	9.12
Mean.....	18.53	.594	.435	.110	.049	73.23	18.52	8.25
Rest period, no copper:		.710	.535	.132	.042	75.35	18.59	5.92
High copper period:								
10.....	34.87	.609	.437	.114	.058	71.76	18.72	9.52
Fourth medium copper period:								
11.....	11.39	.604	.423	.121	.060	70.03	20.03	9.93
After period:								
12.....		.577	.412	.105	.060	71.40	18.20	10.40

Distribution of sulphur by weight and per cent—Continued.

SUBJECT No. 5.

Periods.	Cu daily.	Total sulphur.	Weight.			Per cent.		
			Inorganic sulphur.	Neut. ral sulphur.	Ethe- real sulphur.	Inorganic sulphur.	Neut. ral sulphur.	Ethe- real sulphur.
Fore periods:	<i>Mgs.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Gram.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>
1.....		0.811	0.617	0.132	0.063	76.08	16.28	7.77
2.....		.723	.540	.132	.051	74.69	18.26	7.05
Mean.....		.767	.579	.132	.057	75.49	17.21	7.43
Low copper periods:								
3.....	13.16	.698	.522	.128	.048	74.78	18.34	6.88
4.....	12.79	.706	.529	.124	.053	74.93	17.56	7.51
5.....	10.44	.775	.580	.133	.062	74.84	17.16	8.00
Mean.....	12.13	.726	.544	.128	.054	74.93	17.63	7.44
Medium copper periods:								
6.....	22.12	.765	.575	.137	.053	75.16	17.91	6.93
7.....	16.63	.829	.621	.152	.056	74.91	18.34	6.76
8.....	17.29	.721	.521	.150	.050	72.26	20.80	6.93
Mean.....	18.68	.772	.572	.146	.053	74.09	18.91	6.87
Rest period, no copper:								
9.....		.774	.554	.170	.050	71.58	21.96	6.46
High copper period:								
10.....	35.07	.688	.476	.158	.054	69.19	22.97	7.85
Fourth medium copper period:								
11.....		.675	.468	.153	.054	69.34	22.67	8.00
After period:								
12.....		.610	.422	.131	.057	69.18	21.48	9.34

SUBJECT No. 6.

Fore periods:								
1.....		0.747	0.573	0.137	0.038	76.71	18.34	5.09
2.....		.685	.513	.134	.037	74.89	19.56	5.40
Mean.....		.716	.543	.136	.038	75.84	18.99	5.31
Low copper periods:								
3.....	13.57	.689	.517	.127	.045	75.04	18.43	6.53
4.....	12.86	.679	.503	.128	.048	74.08	18.85	7.07
5.....	10.51	.661	.499	.118	.044	75.49	17.85	6.66
Mean.....	12.31	.676	.506	.124	.046	74.85	18.34	6.80
Medium copper periods:								
6.....	22.09	.650	.477	.131	.042	73.39	20.15	6.46
7.....	16.41	.640	.473	.125	.042	73.91	19.53	6.56
8.....	17.54	.609	.439	.122	.048	72.08	20.03	7.88
Mean.....	18.68	.633	.463	.126	.044	73.15	19.91	6.95
Rest period, no copper:								
9.....	35.19	.609	.441	.127	.042	72.41	20.85	6.90
High copper period:								
10.....	28.00	.648	.464	.135	.049	71.61	20.83	7.56
Fourth medium copper period:								
11.....		.690	.505	.136	.049	73.19	19.71	7.10
After period:								
12.....		.620	.448	.122	.049	72.26	19.68	7.90

SUMMARIES FROM THE TABLE.

Subject No. 1.—The urinary sulphur naturally follows the urinary nitrogen rather closely, and therefore, so far as total sulphur is concerned, we find no variations in this table which would not be sug-

gested by the nitrogen tables. The changes in the total sulphur vary with the protein ingestion essentially.

But when we come to the question of distribution a few points which are worthy of note present themselves. In the first medium copper periods there appears to be a tendency to increase the neutral sulphur at the expense of the inorganic and the ethereal sulphur, and this shows also in the high copper period. The change is not great, and it does not seem to be related to any change in the total sulphur elimination.

Subject No. 2.—In No. 2A the sulphur elimination and distribution appear perfectly normal, but in No. 2B we note the same increase in neutral sulphur in the high copper period that was pointed out for No. 1. This shows in absolute amount, notwithstanding the fact that the total sulphur is decreased, as well as in the percentage distribution.

Subject No. 3.—The same peculiarity regarding the neutral sulphur already pointed out shows here also. In the periods of dosage with coppered peas the behavior is evidently normal, but in the high copper period and the following medium period we have an amount of neutral sulphur which appears high in proportion to the whole excretion. In the high copper period the neutral and ethereal sulphurs are both absolutely and relatively high for this man.

Subject No. 4.—In the case of this man the gain in ethereal sulphur in the last periods is more marked than the gain in neutral sulphur, but in the latter there is unquestionably some relative increase, which shows in the last medium copper periods when compared with the medium copper periods before the rest period. With the total elimination of sulphur about the same we have, absolutely and relatively, a gain in the neutral sulphur.

Subject No. 5.—This man appears to show the same peculiarity with reference to the neutral sulphur that was pointed out for the others. But the increase seems to begin in the rest period, following the eighth or third medium copper period, and extends into the later periods.

Subject No. 6.—Here again we have the highest neutral sulphur in the rest period and the following high copper period.

It is not possible to assign the significance of this relation which runs through the whole series of figures, and it would not be proper to assert that any deleterious action is indicated. It is likely that, even with low protein and consequent low total sulphur elimination, a certain minimum of sulphur must always be excreted in the so-called neutral form. With lowered total sulphur the percentage excretion of neutral sulphur must therefore appear increased. In other reports attention has been called to this fact. We have almost the same situation in the case of the elimination of creatinine.

But in some of the subjects discussed above this explanation does not appear to be sufficient to account for the facts as observed. With some of the men we have an absolute as well as a relative rise in the neutral sulphur, and this seems to come in the second half of the investigation, after a considerable amount of copper has been ingested. It seems, therefore, possible that this copper, carried to the liver, may have exerted some action in decreasing the oxidation of the neutral sulphur. However, as the changes are not large, I am not disposed to attach much importance to them.

RATIO OF SULPHUR AND PHOSPHORUS TO NITROGEN.

Ratio of sulphur to nitrogen and phosphorus to nitrogen in urine.

SUBJECT No. 1.

Periods.	Cu in mgs. daily.	Total sulphur.	Total nitrogen.	Ratio S:N.	P ₂ O ₅ .	Phosphorus reduced from P ₂ O ₅ .	Ratio P:N.
Fore periods:	Mgs.	Gram.	Grams.		Grams.	Grams.	
1.....		0.788	11.51	1:14.6	2.23	0.974	1:11.8
2.....		.661	9.67	1:14.6	1.96	.856	1:11.3
Mean.....		.725	10.59	1:14.6	2.10	.915	1:11.6
Low copper periods:							
3.....	12.03	.657	9.89	1:15.1	1.91	.834	1:11.9
4.....	12.57	.666	9.88	1:14.8	1.96	.856	1:11.5
5.....	9.64	.626	8.72	1:13.9	1.96	.856	1:10.2
Mean.....	11.41	.650	9.50	1:14.6	1.94	.849	1:11.2
Medium copper periods:							
6.....	21.28	.657	9.22	1:14.0	1.99	.869	1:10.6
7.....	16.42	.671	9.15	1:13.6	1.88	.821	1:11.1
8.....	17.85	.622	8.95	1:14.3	2.06	.899	1:10.0
Mean.....	18.52	.650	9.11	1:14.0	1.98	.863	1:10.6
Rest period, no copper:							
9.....		.696	8.91	1:12.8	1.95	.851	1:10.5
High copper period:							
10.....	34.83	.692	9.34	1:13.5	1.97	.860	1:10.9
Fourth medium copper period:							
11.....	28.00	.735	8.84	1:12.0	1.93	.843	1:10.5
After period:							
12.....		.641	8.38	1:13.1	1.81	.790	1:10.6

SUBJECT No. 2A.

Periods.	Cu in mgs. daily.	Total sulphur.	Total nitrogen.	Ratio S:N.	P ₂ O ₅ .	Phosphorus reduced from P ₂ O ₅ .	Ratio P:N.
Fore periods:							
1.....		0.839	11.62	1:13.9	2.58	1.126	1:10.3
2.....		.750	10.09	1:13.5	2.34	1.022	1: 9.9
Mean.....		.795	10.86	1:13.7	2.46	1.074	1:10.1
Low copper periods:							
3.....	12.81	.748	10.37	1:13.9	2.46	1.074	1: 9.7
4.....	12.72	.762	10.88	1:14.3	2.39	1.044	1:10.4
5.....	9.97	.751	10.55	1:14.0	2.45	1.070	1: 9.9
Mean.....	11.83	.754	10.60	1:14.1	2.43	1.063	1:10.0
Medium copper periods:							
6.....	2.05	.756	10.18	1:13.5	2.45	1.070	1: 9.6
7.....	20.50	.764	10.33	1:13.5	2.42	1.057	1: 9.9
8.....							
Mean of two periods.....	11.28	.760	10.26	1:13.5	2.44	1.064	1: 9.8

Ratio of sulphur to nitrogen and phosphorus to nitrogen in urine—Continued.

SUBJECT No. 2B.

Periods.	Cu in mgs. daily.	Total sulphur.	Total nitrogen.	Ratio S:N.	P ₂ O ₅ .	Phos- phorus reduced from P ₂ O ₅ .	Ratio P:N.
Rest period, no copper: 9.....	Mgs.	Gram.	Grams.	1:13.3	Grams.	Grams.	1:11.8
High copper period: 10.....	34.74	.696	9.49	1:13.6	2.09	.913	1:10.4
Fourth medium copper period: 11.....	16.61	.783	10.49	1:13.4	2.31	1.009	1:10.4
After period: 12.....		.799	10.27	1:12.9	2.25	.982	1:10.5

SUBJECT No. 3.

Fore periods:							
1.....		0.791	11.01	1:13.9	2.17	0.948	1:11.6
2.....		.683	9.47	1:13.9	1.85	.808	1:11.7
Mean.....		.737	10.23	1:13.9	2.01	.878	1:11.7
Low copper periods:							
3.....	12.71	.729	9.89	1:13.6	2.05	.896	1:11.0
4.....	12.98	.706	10.25	1:14.5	2.13	.930	1:11.0
5.....	10.68	.726	9.80	1:13.5	2.12	.926	1:10.6
Mean.....	12.12	.720	9.98	1:13.9	2.10	.917	1:10.9
Medium copper periods:							
6.....	21.73	.720	9.79	1:13.6	2.09	.913	1:10.7
7.....	16.74	.678	9.23	1:13.6	2.00	.873	1:10.6
8.....	17.12	.695	9.74	1:14.0	2.13	.930	1:10.5
Mean.....	18.53	.698	9.59	1:13.7	2.07	.905	1:10.6
Rest period, no copper:							
9.....		.706	8.99	1:12.7	1.98	.865	1:10.4
High copper period:							
10.....	34.96	.529	7.38	1:13.9	1.54	.672	1:11.0
Fourth medium copper period:							
11.....	16.11	.507	6.96	1:13.7	1.69	.738	1: 9.4
After period:							
12.....		.582	7.09	1:12.2	1.66	.725	1: 9.8

SUBJECT No. 4.

Fore periods:							
1.....		0.783	10.59	1:13.4	1.92	0.838	1:12.6
2.....		.650	8.93	1:13.7	1.70	.742	1:12.0
Mean.....		.717	9.76	1:13.6	1.81	.790	1:12.3
Low copper periods:							
3.....	13.01	.612	8.18	1:13.4	1.77	.773	1:10.6
4.....	12.72	.613	8.32	1:13.6	1.68	.734	1:11.3
5.....	10.62	.638	8.23	1:12.9	1.78	.777	1:10.6
Mean.....	12.12	.621	8.24	1:13.3	1.74	.761	1:10.8
Medium copper periods:							
6.....	21.68	.581	7.79	1:13.4	1.81	.790	1: 9.9
7.....	16.59	.597	7.85	1:13.1	1.62	.709	1:11.1
8.....	17.31	.603	7.91	1:13.1	1.67	.729	1:10.9
Mean.....	18.53	.594	7.85	1:13.2	1.70	.743	1:10.6
Rest period, no copper:							
9.....		.710	8.83	1:12.4	1.78	.777	1:11.4
High copper period:							
10.....	34.87	.609	7.84	1:12.9	1.69	.738	1:10.6
Fourth medium copper period:							
11.....	11.39	.604	7.61	1:12.6	1.47	.642	1:11.9
After period:							
12.....		.577	7.41	1:12.8	1.66	.725	1:10.2

Ratio of sulphur to nitrogen and phosphorus to nitrogen in urine—Continued.

SUBJECT No. 5.

Periods.	Cu in mgs. daily.	Total sulphur.	Total nitrogen.	Ratio S:N.	P ₂ O ₅ .	Phos- phorus reduced from P ₂ O ₅ .	Ratio P:N.
Fore periods:	<i>Mgs.</i>	<i>Gram.</i>	<i>Grams.</i>		<i>Grams.</i>	<i>Grams.</i>	
1.....		0.811	11.45	1:14.1	2.31	1.009	1:11.3
2.....		.723	10.47	1:14.5	2.10	.917	1:11.4
Mean.....		.767	10.96	1:14.3	2.22	.963	1:11.4
Low copper periods:							
3.....	13.16	.698	10.06	1:14.4	2.10	.917	1:11.0
4.....	12.79	.706	9.99	1:14.2	2.06	.899	1:11.1
5.....	10.44	.775	10.69	1:13.8	2.15	.939	1:11.4
Mean.....	12.13	.726	10.25	1:14.1	2.10	.918	1:11.2
Medium copper periods:							
6.....	22.12	.765	10.69	1:14.0	2.22	.969	1:11.0
7.....	16.63	.829	10.93	1:13.2	2.11	.921	1:11.9
8.....	17.29	.721	10.10	1:14.0	2.12	.926	1:10.9
Mean.....	18.68	.772	10.57	1:13.7	2.15	.939	1:11.3
Rest period, no copper:							
9.....		.774	9.90	1:12.8	2.05	.896	1:11.0
High copper period:							
10.....	35.07	.688	8.52	1:12.4	1.93	.843	1:10.1
Fourth medium copper period:							
11.....		.675	8.01	1:11.9	1.64	.716	1:11.2
After period:							
12.....		.610	6.97	1:11.4	1.55	.677	1:10.3

SUBJECT No. 6.

Fore periods:							
1.....		0.747	10.89	1:14.6	1.84	0.803	1:13.6
2.....		.685	9.73	1:14.2	1.80	.786	1:12.4
Mean.....		.716	10.31	1:14.4	1.82	.795	1:13.0
Low copper periods:							
3.....	13.57	.689	10.01	1:14.5	1.95	.851	1:11.8
4.....	12.86	.679	9.78	1:14.4	1.82	.794	1:12.3
5.....	10.51	.661	9.01	1:13.6	1.76	.768	1:11.7
Mean.....	12.31	.676	9.60	1:14.2	1.84	.804	1:11.9
Medium copper periods:							
6.....	22.09	.650	8.84	1:13.6	1.88	.821	1:10.8
7.....	16.41	.640	8.96	1:14.0	1.85	.808	1:11.1
8.....	17.54	.609	8.47	1:13.9	1.79	.782	1:10.8
Mean.....	18.68	.633	8.76	1:13.8	1.84	.804	1:10.9
Rest period, no copper:							
9.....		.609	8.16	1:13.4	1.84	.803	1:10.2
High copper period:							
10.....	35.19	.648	8.86	1:13.6	1.75	.764	1:11.6
Fourth medium copper period:							
11.....	28.00	.690	8.41	1:12.2	1.80	.786	1:10.
After period:							
12.....		.620	8.04	1:13.0	1.73	.755	1:10.6

SUMMARIES FROM THE TABLES.

The ratios of sulphur to nitrogen and phosphorus to nitrogen are in general very regular and seem to call for no special comment. It is, however, apparent that the ratios of nitrogen to sulphur are slightly higher for all the men in the first half of the study. Beginning with

the rest period the sulphur seems to run relatively a trifle higher than the nitrogen. A little of this, in some of the periods, may be due to the small amount of sulphur ingested as copper sulphate in two of the periods.

The variations in the phosphorus-nitrogen ratios are irregular and suggest no relation to copper ingestion. On the whole, the ratios show a good agreement and serve as a check on the general accuracy of the observations.

UTILIZATION OF FAT.

Fat balance and utilization.

SUBJECT No. 1.

Periods.	Date.	Cu in mgs. daily.	Fat in food.	Fat in feces.	Fat in food less fat in feces— balance.	Utiliza- tion.
Fore periods:		<i>Mgs.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Per cent.</i>
1.....	May 1-10.....		114.97	4.31	110.66	96.25
2.....	May 11-20.....		116.18	3.92	112.27	96.63
Mean.....			115.58	4.12	111.47	96.44
Low copper periods:						
3.....	May 21-30.....	12.03	106.55	3.59	102.96	96.63
4.....	May 31-June 9.....	12.57	111.54	3.53	108.01	96.83
5.....	June 10-19.....	9.64	118.31	4.52	113.80	96.19
Mean.....		14.41	112.13	3.88	108.26	96.55
Medium copper periods:						
6.....	June 20-29.....	21.28	125.84	3.83	122.02	96.96
7.....	June 30-July 9.....	16.42	135.14	3.37	131.77	97.52
8.....	July 10-19.....	17.85	132.50	3.77	128.72	97.15
Mean.....		18.52	131.16	3.66	127.50	97.21
Rest period, no copper:						
9.....	July 20-29.....		122.87	3.87	119.01	96.86
High copper period:						
10.....	July 30-Aug. 8.....	34.83	131.61	4.09	127.52	96.89
Fourth medium copper period:						
11.....	Aug. 9-18.....	28.00	135.30	3.52	131.78	97.40
After period:						
12.....	Aug. 19-28.....		125.55	2.80	122.75	97.77

SUBJECT No. 2A.

Fore periods:						
1.....	May 1-10.....		133.31	4.43	128.88	96.68
2.....	May 11-20.....		149.99	3.06	146.93	97.96
Mean.....			141.65	3.75	137.91	97.32
Low copper periods:						
3.....	May 21-30.....	12.81	153.04	4.12	148.92	97.31
4.....	May 31-June 9.....	12.72	150.67	5.20	145.47	96.55
5.....	June 10-19.....	9.97	132.96	4.18	128.78	96.84
Mean.....		11.83	145.56	4.50	141.06	96.90
Medium copper periods:						
6.....	June 20-29.....	2.05	132.21	{ Vomitus } { 0.05 } 4.21 { 0.13 } 3.70	128.00	96.82
7.....	June 30-July 9.....	20.50	130.25		126.55	97.16
8.....	July 10-19.....					
Mean of two periods.....		11.28	131.23	3.96	127.28	96.99

Fat balance and utilization—Continued.

SUBJECT No. 2B.

Periods.	Date.	Cu in mgs. daily.	Fat in food.	Fat in feces.	Fat in food less fat in feces— balance.	Utiliza- tion.
Rest period, no copper:		<i>Mgs.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Per cent.</i>
9.....	July 20-29.....		117.57	6.37	111.20	94.58
High copper period:						
10.....	July 30-Aug. 8....	34.74	126.19	5.75	120.44	95.44
Fourth medium copper period:						
11.....	Aug. 9-18.....	16.61	150.53	5.00	145.53	96.68
After period:						
12.....	Aug. 19-23.....		138.91	4.33	134.58	96.88

SUBJECT No. 3.

Fore periods:						
1.....	May 1-10.....		95.48	4.26	91.22	95.54
2.....	May 11-20.....		100.44	3.32	97.12	96.69
Mean.....			97.96	3.79	94.17	96.12
Low copper periods:						
3.....	May 21-30.....	12.71	99.59	3.58	96.02	96.41
4.....	May 31-June 9....	12.98	105.79	4.61	101.19	95.65
5.....	June 10-19.....	10.68	104.27	3.51	100.76	96.63
Mean.....		12.12	103.22	3.90	99.32	96.23
Medium copper periods:						
6.....	June 20-29.....	21.73	101.01	3.45	97.56	96.59
7.....	June 30-July 9....	16.74	108.74	4.02	104.72	96.30
8.....	July 10-19.....	17.12	88.70	4.24	84.46	95.22
Mean.....		18.53	99.48	3.90	95.58	96.04
Rest period, no copper:						
9.....	July 20-29.....		83.62	5.72	77.90	93.16
High copper period:						
10.....	July 30-Aug. 8....	34.96	59.61	3.47	56.14	94.18
Fourth medium copper period:						
11.....	Aug. 9-18.....	16.11	87.37	2.41	84.97	97.26
After period:						
12.....	Aug. 19-23.....		96.51	3.99	92.52	95.87

SUBJECT No. 4.

Fore periods:						
1.....	May 1-10.....		129.92	2.69	127.23	97.93
2.....	May 11-20.....		132.66	2.93	129.73	97.79
Mean.....			131.29	2.81	128.48	97.86
Low copper periods:						
3.....	May 21-30.....	13.01	135.45	3.88	131.57	97.15
4.....	May 31-June 9....	12.72	141.83	4.07	137.77	97.14
5.....	June 10-19.....	10.62	149.46	4.66	144.80	96.88
Mean.....		12.12	142.25	4.20	138.05	97.06
Medium copper periods:						
6.....	June 20-29.....	21.68	131.00	3.33	127.67	97.46
7.....	June 30-July 9....	16.59	136.27	3.45	132.82	97.47
8.....	July 10-19.....	17.31	136.43	4.22	132.21	96.91
Mean.....		18.53	134.57	3.67	130.90	97.28
Rest period, no copper:						
9.....	July 20-29.....		132.19	4.01	128.18	96.97
High copper period:						
10.....	July 30-Aug. 8....	34.87	120.57	5.47	115.11	95.47
Fourth medium copper period:						
11.....	Aug. 9-18.....	11.39	114.00	7.72	106.28	93.23
After period:						
12.....	Aug. 19-23.....		128.71	2.02	126.69	98.43

Fat balance and utilization—Continued.

SUBJECT No. 5.

Periods.	Date.	Cu in mgs. daily.	Fat in food.	Fat in feces.	Fat in food less fat in feces— balance.	Utiliza- tion.
Fore periods:		<i>Mgs.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Per cent.</i>
1.....	May 1-10.....		113.46	3.57	109.89	96.86
2.....	May 11-20.....		119.70	2.79	116.91	97.67
Mean.....			116.58	3.18	113.40	97.27
Low copper periods:						
3.....	May 21-30.....	13.16	106.30	3.06	103.24	97.12
4.....	May 31-June 9....	12.79	126.11	3.41	122.70	97.30
5.....	June 10-19.....	10.44	129.22	4.23	124.98	96.72
Mean.....		12.13	120.54	3.57	116.97	97.05
Medium copper periods:						
6.....	June 20-29.....	22.12	124.75	3.73	121.02	97.01
7.....	June 30-July 9....	16.63	135.35	2.66	132.69	98.04
8.....	July 10-19.....	17.29	125.06	3.79	121.27	96.97
Mean.....		18.68	128.39	3.39	124.99	97.34
Rest period, no copper:						
9.....	July 20-29.....		123.88	3.66	120.22	97.04
High copper period:						
10.....	July 30-Aug. 8....	35.07	145.19	5.84	139.35	95.98
Fourth medium copper period:						
11.....	Aug. 9-18.....		135.43	4.36	131.07	96.79
After period:						
12.....	Aug. 19-28.....		157.58	3.88	153.70	97.54

SUBJECT No. 6.

Fore periods:						
1.....	May 1-10.....		136.62	4.83	131.78	96.46
2.....	May 11-20.....		140.62	6.71	133.92	95.23
Mean.....			138.62	5.77	132.85	95.85
Low copper periods:						
3.....	May 21-30.....	13.57	135.09	4.21	130.89	96.89
4.....	May 31-June 9....	12.86	129.88	6.19	123.69	95.24
5.....	June 10-19.....	10.51	138.14	5.95	132.19	95.69
Mean.....		12.31	134.37	5.45	128.92	95.94
Medium copper periods:						
6.....	June 20-29.....	22.09	139.05	5.12	133.93	96.32
7.....	June 30-July 9....	16.41	141.41	5.43	135.98	96.16
8.....	July 10-19.....	17.54	139.74	5.01	134.73	96.42
Mean.....		18.68	140.07	5.19	134.88	96.30
Rest period, no copper:						
9.....	July 20-29.....		126.01	5.60	120.41	95.56
High copper period:						
10.....	July 30-Aug. 8....	35.19	132.55	4.87	127.69	96.33
Fourth medium copper period:						
11.....	Aug. 9-18.....	28.00	134.44	4.68	129.76	96.52
After period:						
12.....	Aug. 19-28.....		132.47	4.82	127.65	96.36

SUMMARIES FROM THE TABLES.

A consideration of the data on the fats shows that the loss in the feces is in general small and apparently without relation to the copper ingestion in subjects Nos. 1, 2, 3, and 6. In the cases of subjects Nos. 4 and 5 there is an increased amount of fat in the feces of the

high copper periods, with correspondingly lowered figures for the utilizations.

But these changes are not large enough to warrant a conclusion that any deleterious action of the copper ingested is indicated by them. The general results for the utilizations are good, and it will be noted that the few cases of lowered utilization correspond to a somewhat lowered fat ingestion.

INDICAN REACTION OF THE URINE.

Indican reaction of the urine.

[Daily means for all the subjects.]

Periods.	Date.	Subject No. 1.	Subject No. 2A.	Subject No. 3.	Subject No. 4.	Subject No. 5.	Subject No. 6.
Fore periods:							
1.....	May 1-10.....	14	59	24	40	7	20
2.....	May 11-20.....	17	63	36	40	3	16
Mean.....		16	61	30	40	5	18
Low copper periods:							
3.....	May 21-30.....	12	58	18	33	5	15
4.....	May 31-June 9.....	6	63	26	40	10	22
5.....	June 10-19.....	11	74	27	46	11	25
Mean.....		10	65	24	40	9	21
Medium copper periods:							
6.....	June 20-29.....	7	66	23	53	12	18
7.....	June 30-July 9.....	9	84	29	47	13	20
8.....	July 10-19.....	9		28	55	18	39
Mean.....		8	75	27	52	14	26
Rest period, no copper:			Subject No. 2B.				
9.....	July 20-29.....	14	60	37	61	17	19
High copper period:							
10.....	July 30-Aug. 8.....	29	37	60	75	55	48
Fourth medium copper period:							
11.....	Aug. 9-18.....	26	32	39	67	67	41
After period:							
12.....	Aug. 19-28.....	23	35	36	65	58	39

SUMMARIES FROM THE TABLE.

The mean values for the indican excretions show irregular variations which are not significant in pointing to an influence of the copper ingestion, although it is true that somewhat higher figures appear in the second half of the investigation. In the case of subject No. 1 we have a slight decrease from the fore period and the rest period, and than a general increase. In the case of No. 2A the values begin and remain high, while for No. 2B there is a little reduction from the beginning. In subjects Nos. 3, 4, and 6 the highest values fall in the high copper period, but in No. 5 the highest values are in the last medium copper and after period, in neither of which copper was given. Subject No. 5, however, was in rather bad general condition through both periods.

ACIDITY OF THE URINE.

The acidity of the urine.

[Daily means for all the subjects.]

Periods.	Date.	Subject No. 1.	Subject No. 2A.	Subject No. 3.	Subject No. 4.	Subject No. 5.	Subject No. 6.
Fore periods:							
1.....	May 1-10.....	1.84	1.82	1.62	1.48	1.81	1.62
2.....	May 11-20.....	1.49	1.54	1.14	1.15	1.42	1.38
Mean.....		1.67	1.68	1.38	1.32	1.62	1.50
Low copper periods:							
3.....	May 21-30.....	1.56	1.71	1.49	1.30	1.66	1.71
4.....	May 31-June 9.....	1.60	1.69	1.51	1.23	1.57	1.54
5.....	June 10-19.....	1.67	1.91	1.72	1.56	2.04	1.87
Mean.....		1.61	1.77	1.57	1.36	1.76	1.71
Medium copper periods:							
6.....	June 20-29.....	1.86	1.92	1.85	1.62	2.02	1.70
7.....	June 30-July 9.....	1.73	2.02	1.65	1.32	2.03	1.88
8.....	July 10-19.....	1.63		1.58	1.19	1.73	1.66
Mean.....		1.74	1.97	1.69	1.38	1.93	1.75
Rest period, no copper:			Subject No. 2B.				
9.....	July 20-29.....	1.77	1.94	1.75	1.60	1.91	1.76
High copper period:							
10.....	July 30-Aug. 8.....	1.78	2.00	1.23	1.34	1.69	1.60
Fourth medium copper period:							
11.....	Aug. 9-18.....	1.44	1.72	1.39	1.18	1.48	1.57
After period:							
12.....	Aug. 19-28.....	1.17	1.47	.89	.94	.91	1.36

SUMMARIES FROM THE TABLE.

As in the table on indican excretion, this table on urine acidity does not appear to point to any clear relation between this factor and copper ingestion. The values are fairly constant for each man from the start to the end of the rest period, and such variations as occur are irregular ones. In the tenth, or high copper period, there is an increase in some cases and a decrease in others in the acidity. For some of the men there is decrease in the eleventh period and for all a decided decrease in the after period, which bears no relation to a change in the protein intake. It is evident that some one of the other factors which influence acidity is in play here. There remains of course the possibility that we have in this after period a delayed effect of the large copper doses of the tenth period, but for want of other information on this subject this can be no more than a surmise.

DRY WEIGHT OF THE FECES.

Dry weight of feces.

[Daily means for all the subjects.]

Periods.	Date.	Subject No. 1.	Subject No. 2A.	Subject No. 3.	Subject No. 4.	Subject No. 5.	Subject No. 6.
Fore periods:		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
1.....	May 1-10.....	21.85	22.03	23.44	14.42	21.69	22.60
2.....	May 11-20.....	20.55	18.08	22.12	16.65	18.96	29.68
Mean.....		21.20	20.06	22.78	15.54	20.33	26.14
Low copper periods:							
3.....	May 21-30.....	19.39	18.33	20.15	19.20	23.36	22.37
4.....	May 31-June 9.....	16.59	20.44	22.56	15.98	18.60	22.99
5.....	June 10-19.....	22.60	20.81	21.77	22.07	24.24	25.82
Mean.....		19.53	19.86	21.49	19.08	22.07	23.73
Medium copper periods:							
6.....	June 20-29.....	18.90	17.17	16.87	15.26	21.46	24.26
7.....	June 30-July 9.....	19.63	20.43	24.16	17.88	16.89	27.39
8.....	July 10-19.....	18.85	.....	18.74	17.47	19.17	20.31
Mean.....		19.13	18.80	19.92	16.87	19.17	23.99
Rest period, no copper:			Subject No. 2B.				
9.....	July 20-29.....	20.91	29.90	20.03	18.36	21.43	23.92
High copper period:							
10.....	July 30-Aug. 8.....	18.46	28.44	18.79	23.29	28.15	26.45
Fourth medium copper period:							
11.....	Aug. 9-18.....	20.03	28.80	15.64	22.06	20.15	24.53
After period:							
12.....	Aug. 19-28.....	18.25	21.16	18.99	13.15	21.16	24.20

SUMMARIES FROM THE TABLE.

The weights of the feces in the dry condition do not undergo marked variations in any case. For subjects Nos. 2A, 3, and 6 these weights are pretty constant throughout. No. 2B is constant through periods 9, 10, and 11, but shows a little drop in the after period. Nos. 4 and 5 show their highest values in the high copper period, but the increases are not enough to call for comment. It is not possible to connect them definitely with the copper ingestion. The values, in general, are not higher than should be expected from normal feces.

COPPER BALANCE.

An attempt was made to determine for each subject the amount of copper excreted, by periods, and the tests were carried through for each subject except Nos. 2A and 2B.

Whether copper is excreted with the urine or not is still an open question. In our work no amount was present which could be detected qualitatively by the most delicate tests in one-half of the day's urine. For the purpose of these tests the urine was boiled down in new Kjeldahl flasks and oxidized by a mixture of nitric and sulphuric acids; the excess of nitric acid was then driven off, and the diluted liquid was treated with hydrogen sulphide; the trace of pre-

cupitate, mostly sulphur, was oxidized with nitric acid, and the residue heated to form copper oxide of any copper present. After taking up with acetic acid, evaporating, and diluting with water, a test was made with ammonia and with potassium ferrocyanide. In no case was any color obtained which could be taken as suggesting copper.

A systematic test for copper was made at the end of each period on the mixed feces of the period, the amount taken for the test varying from 10 to 25 grams. As has been explained, the feces were collected in 10-day periods, the periods being separated by means of lampblack administered each 10 days in capsules. The appearance of the lampblack in the feces follows two or three days, usually, after the administration. Demarkation is not always sharp, and the lampblack excretion is sometimes delayed. For this reason the copper excretion is not always in correspondence with the ingestion, and the 10-day stool may contain the copper of more than 10 days of ingestion. It may also happen that the feces, separated as accurately as possible by the lampblack, may contain less than 10 days' ingestion.

In some cases the excretion appeared to be greatly delayed at times. This depends, in part, on the physical character of the stool. Because of the uncertainty in the period demarkation, the comparison between ingestion and recovery is best made at the end of the rest period and the end of the final after period, as appears in the following table:

Copper ingestion and excretion.

Period.	Subject No. 1.		Subject No. 3.		Subject No. 4.		Subject No. 5.		Subject No. 6.	
	Ingestion.	Recovered.	Ingestion.	Recovered.	Ingestion.	Recovered.	Ingestion.	Recovered.	Ingestion.	Recovered.
From beginning to end of rest period..	<i>Mgs.</i> 897.92	<i>Mgs.</i> 920.69	<i>Mgs.</i> 919.53	<i>Mgs.</i> 882.09	<i>Mgs.</i> 919.33	<i>Mgs.</i> 892.05	<i>Mgs.</i> 924.33	<i>Mgs.</i> 979.19	<i>Mgs.</i> 929.76	<i>Mgs.</i> 820.94
From end of rest period to end of after period.....	628.32	586.17	510.67	487.17	462.56	532.19	350.68	299.35	631.93	741.67
Total	1,526.24	1,506.86	1,430.20	1,369.26	1,381.89	1,424.24	1,275.01	1,278.54	1,561.69	1,562.52
Per cent recovered..	.....	98.7	.....	95.7	.....	103.1	.....	100.3	.....	100.1

In the cases of subjects Nos. 5 and 6 the feces were practically free from copper at the end of the eleventh period. In the case of subject No. 4, because of cramps and pains in the bowels, accompanied by diarrhea, a dose of castor oil was given in the eleventh period, which resulted in a general cleaning out of the bowels. All copper present was probably flushed out. In the cases of subjects Nos. 1 and 3 the excretion of copper was continued into the after period, but was complete by the end of it. With No. 6 we have a delayed excretion of the copper, which came out in the late periods, doubtless aided by a marked diarrhea with copious discharges.

In the cases of subjects Nos. 1 and 3 some little retention of copper is suggested by the results of the experiments, but at first sight such retention is not indicated by the experience in the other cases. The ingestion and excretion seem to balance very well. But the balance is probably more apparent than real, because the small amount of copper taken daily with the ordinary foods is not taken into consideration. Such traces are ingested with bread and many vegetable and even animal foods, but they are too small for easy determination. I did not attempt to find the amounts so ingested, but tests of the feces in the fore periods showed minute amounts excreted, which, however, were not estimated quantitatively. If these traces are assumed to be as low as three-quarters of a milligram daily, and they are probably more, the aggregate normal ingestion for the whole period would be enough to turn the balance in the feces to a distinctly negative one in all cases.

It must be added that the use of copper vessels in cooking was naturally avoided, but the fact of the presence of copper in traces in many foods is so well authenticated that the normal ingestion assumed above is necessary to a proper understanding of what must take place in trying to balance ingestion and excretion.

Taking all the facts into consideration, I am inclined to believe that some appreciable retention of copper in the body, extending beyond the after period, must be admitted as shown by the experiments.

Some months after the completion of these experiments two of the subjects, Nos. 1 and 4, were given each 100 milligrams of copper, as sulphate, in five daily doses of 20 milligrams each. The doses were taken in beer. The feces were collected in paraffined buckets and the whole amounts were saved for analysis, the collections being continued some days beyond the final lampblack excretion.

Subject No. 1 excreted 1,190 grams; 485 grams, oxidized and treated as already explained, gave 0.0408 gram of copper by electrolysis, corresponding to 100.1 per cent for the whole excretion.

Subject No. 4 excreted 884 grams; 294.5 grams gave 0.0330 gram of copper, corresponding to 99.05 per cent for the whole excretion.

These results do not point to any appreciable retention of the copper, but if the considerations presented above be kept in mind it seems likely that here, as before, some retention must be recognized. It can not be very great, however, and an excretion of not less than 90 per cent of the ingested copper is indicated. The food contained no oysters or other substance known to contain more than traces of copper, and it is likely that the experiments show the normal behavior of copper in moderate doses. Beyond some nausea the men did not complain of bad feelings following the taking of the copper.

It may be in order here to refer to some experiments bearing on the fate of the copper compound contained in peas, in the alimentary

tract. This compound is usually described as a copper salt of phyllocyanin, one of the chlorophyll constituents, and is known to be relatively stable. In a series of tests I found that crushed and cooked peas when subjected to digestion with an active pancreas ferment, "panase," and then with pepsin and weak hydrochloric acid, left a residue in which the copper appeared to be as firmly combined as in the original. The liquid over the residue gave no tests for copper. The residue still remained bright green after a long digestion with pancreatin, and the whole behavior points to the remarkable stability of the copper-chlorophyll complex. This complex is contained in the hull or bran of the pea.

Weak sodium sulphide attacks this compound slowly and very superficially. The hull remains green after prolonged digestion with the sulphide, although some of the copper is removed at once.

These results suggest that the copper compound in the pea may pass into and down the intestine without suffering much change until the lower stretches are reached, where decomposition by sulphides may occur. This decomposition may be only partial. In other words, a part of the copper-chlorophyll complex may persist and be excreted from the body as such.

Another interesting observation having some bearing on the question is this: The fat residues obtained by extracting the dried feces with ether were always green during the time of feeding with the colored peas, and examination showed that the color was due to something having the reactions of chlorophyll, which is soluble in oils as well as in ether. The presence of this color may be interpreted in two ways. It may come from the chlorophyll liberated from the copper or it may be due to an excess of the coloring matter in the peas beyond that which would combine with the copper. In some samples of peas tested this excess was found, and the fact has an important bearing on the question of the stability and insolubility of the copper combination. If copper were present in excess of the chlorophyll, its behavior in the alimentary tract might be very different.

GENERAL SUMMARY FROM THE WHOLE WORK.

It is by no means a simple matter to reach a conclusion as to the effects of copper dosage from a study of the results obtained during the time of feeding with coppered peas. It is true that in subject No. 2A we have apparently a bad effect, but in many respects this man developed peculiarities in the fore period which may have led to the bad mental and physical condition in the dosage periods. It is true also that the man was badly nauseated, as soon as he began the high dosage with peas, but he appeared to be in a condition where peas in any form occasioned nausea. It is further true that a

dose of copper sulphate in milk could be taken when peas could not. I am therefore of the opinion that no very positive conclusion as to the harmful effect should be drawn from the experiment with this man.

Leaving the case of subject No. 2A out of consideration, we find a somewhat colorless record for four of the squad through the eighth period. The men became very tired of peas, and on this account suffered some little loss of appetite. But we find no marked symptoms as shown by the clinical record or the observations on metabolism in subjects Nos. 1, 3, 4, and 6. Changes in weight were unimportant and irregular through the eighth period, and the various factors drawn from the examinations of the blood pointed to no definite changes.

On the whole it must be said that the dosage with coppered peas failed to show an appreciably harmful effect in any case except, perhaps, subject No. 5. This man began to be nauseated in the eighth period and to show traces of albumin in his urine, which continued throughout the dosage periods. There appeared to be also some increase in the white and red cells found in the urine, and the change was sufficiently marked to attract attention. Something will be said later concerning the albuminuria of this man which throws more light on his case.

Passing from the dosage with coppered peas to the ingestion of copper sulphate, the case is somewhat different. It is true that in this latter form of administration the sulphate is allowed to react with an excess of some substance capable of forming a precipitate with the copper. Milk was most frequently employed, and the protein present was always in great excess. But one thing is true of all these combinations, viz, the precipitates give up their copper rather readily to dilute hydrochloric acid. The combination in peas is in this respect relatively stable as shown above, and an amount up to 150 to 200 milligrams per kilogram may be so fixed. In experiments made in my laboratory I found that while larger weights of copper may be taken up by peas a part may be readily dissolved out by dilute acids. This removable fraction is possibly analogous to the combination with the proteins of milk; while insoluble in water it is dissolved easily in acids as weak as the hydrochloric acid of the gastric juice, and this fact is not without importance when we consider the behavior of the two kinds of products in digestion.

Beginning with the tenth period, we have for all the men a moderate dosage in the form of greened peas, and a dose four times as great, approximately, in the form of copper sulphate. The effect of this dosage appears in several directions. We have, first, for every man a marked condition of nausea at meals. This was to be expected, but it is, probably, the least important of the disturbances noted.

In the case of subject No. 5 the appearance of albumin in the eighth period continued in the tenth, and to such an extent that it was thought advisable to withdraw the copper from the diet of this man through the whole of the next period. Even after dropping the copper, albumin remained and continued into the twelfth, or after, period. During the following months albumin remained absent. It will be noted that the other subjects were not affected in the same way.

Later observations on subject No. 5 have suggested an explanation for the persistence of albumin in his case. During all the time of the experiment he carried papers, and this occupation he followed later. Nearly a year after the conclusion of the copper investigations I carried out a series of tests on a large number of students as to the occasional appearance of albumin and casts. These observations were in no wise related to the present investigation. This young man happened to be one of the subjects brought under observation, and it was found that his urine of certain days began to show albumin. Inquiry disclosed the fact that on these days he did about twice his usual work, because of the absence of a companion. In following up the matter it was proved that albumin always appeared on Sunday, when he had a large bundle of papers to carry and when he made many trips to the top floors of apartment buildings. On giving up this work the albumin disappeared completely, as shown by daily tests, and tests were made several times during the day.

It is possible that an increased amount of work from the paper route had an effect in overstraining the kidneys, as was the case on a former occasion, when, in addition to carrying papers morning and evening, this man tried to work in a store during the day. Albumin very soon appeared in traces in the urine, to disappear on dropping the store work.

While it is not possible to attach a very sharp meaning to the results of the mercuric chloride test with the feces, the so-called hydrobilirubin test, it is well to call attention to the experience with subject No. 3 in this respect. In all the subjects there were occasional rather strong reactions in the later periods and even in the after period with this reagent, but the feces of subject No. 3 in the tenth period, highest dosage, showed a reaction entirely beyond anything in our previous experience. The intensity of the reaction was certainly abnormal; unfortunately its significance can not be explained.

During the time of high dosage most of the men suffered from frequent attacks of pains in the bowels and from diarrhea. In a number of cases the condition of discomfort was very pronounced, but disappeared at the end of the dosage periods. It seems necessary to associate the phenomena in this direction with the administration of the

copper. While nausea may frequently be accounted for as a result of a psychic disturbance, the pains in the bowels and the oft recorded diarrhea can not be so explained. It should be noted that as a rule the men made no complaint of other symptoms of abnormal condition, and hence they are usually described as in "good medical condition." This report expresses their own description of their feelings from day to day.

In respect to the blood examinations, it may be said that the departures from the normal variation in the several factors are not very marked, but it is noteworthy that for all the men there was a drop in hemoglobin in the fifth period, which was one of the lower dosage periods. Subject No. 3 shows a plain drop in hemoglobin in the so-called medium dosage periods, and a marked drop in the tenth or highest dosage period. Subject No. 4 shows also rather low hemoglobin in the fifth, seventh, and tenth periods and somewhat diminished red counts about the same time. Subject No. 5 shows diminished hemoglobin after the fourth period, to improve somewhat after the tenth. The red counts run down especially in the eighth and tenth periods. Subject No. 6 shows the principal variations from the normal in the rest periods; which results are difficult of interpretation unless it be admitted that here a possible effect of the copper is delayed in its appearance.

On the whole the clinical observations appear to point to some effects of copper administration which must be classed as harmful, and this is perhaps most clearly shown in a general loss of weight for all the subjects. This loss of weight is more marked than is the decline in the consumption of protein food. It seems to run more nearly parallel with the utilization of the nitrogen to be referred to below.

Turning now to the results of the metabolism experiments, already discussed, it appears that we have some good grounds for suspecting a deleterious effect of the copper ingestion. This shows in a lowered protein utilization for most of the men in the last part of the experiment.

Attention has been called to certain anomalies in the distribution of nitrogen shown in the metabolism of some of the men. There is no question about the fact of the relative increase of the purine fraction at the expense of the uric acid, but the bearing of this on the behavior of the copper does not immediately follow. The irregular distributions come in the last part of the experiment, where the dosage was with copper in the form of sulphate, and the most natural inference would be that in the subjects where they occur some modification of the usual purine transformation has taken place as a result of the alterations brought about in the liver by the passage of greater amounts of copper to that organ. The change was the most

marked in subject No. 3, who showed irregularities in other directions also.

Other metabolism changes did not appear to have any practical significance in showing a bad effect of the copper.

GENERAL CONCLUSIONS.

In reviewing the whole work it is evident that we have two somewhat distinct conditions. During the lower dosage periods with copper in peas our records point to nothing which may be clearly applied in showing a harmful action of the metal. It appears that 100 grams daily of peas containing 10 milligrams of copper occasioned no marked disturbance beyond the distaste for the peas themselves. In carefully coppered peas it would be possible to have an amount of copper as low as 5 milligrams per 100 grams, with preservation of the green color, and if ingestion were limited to 50 grams per day, which would be a high monthly average, it is likely that no effect would be observed from it.

On the other hand, much of the coppering seems to be carelessly done, and it is possible to add several hundred milligrams per kilogram to peas. The peculiar chlorophyll derivative which seems to fix the copper is not abundant enough in the food to fix so large an amount, and in consequence we have a part of the copper in a form which is probably as active as that in our milk dosage. There is undoubtedly a difference in the behavior of the copper when combined in these different forms, and it may not be possible to draw a conclusion as to the action of copper, as properly used in a chlorophyll-containing vegetable, from the action of copper sulphate in protein combination. About the only conclusion that we may legitimately draw from our low dosage experiments is that it may be difficult to feed enough peas—and this may be even more truly the case with certain other vegetables—to ingest copper in amount sufficient to produce a harmful action, as shown by clinical and metabolism observations.

On the other hand, it is certainly true that copper sulphate as ingested with milk or beer through periods of some weeks is far from being harmless or free from easily observed effects. The copper in this form has apparently a physiological action distinct from that in the peas, and is unquestionably more active. It seems to me that the behavior of the copper is not so much a question of the amount as it is a question of the manner of combination. From this point of view experiments in which copper sulphate is fed in capsules or in liquids with which it does not combine chemically, might lead to conclusions having little bearing on the question of the behavior of copper in the few foods in which it actually occurs.

Copper is added to peas and other vegetables almost solely on account of the green color it imparts. Its preservative action is relatively low, in the quantities used, and besides there would be no occasion to employ it in that way, as the products to which it is added are cooked and packed in sealed cans.

The addition of copper salts to peas and other vegetables has unquestionably the effect of suggesting to the user greater freshness than may be actually the case. While a very old pea may not be easily colored, it is true that peas which have begun to harden, and are far from the young or fresh stage, may be given enough copper to materially brighten their appearance. In this way, it is clear, a certain kind of inferiority is covered up.

It can not be said that the small amount of copper necessary in fixing the color in peas and other vegetables is sufficient to injuriously affect the quality or strength of the same as far as the actual food value is concerned, but whether this addition is injurious to health, or not, must depend to some extent, in the light of what has been said above, on the amount of copper present, and on the form of combination. If the amount is small, not over 10 milligrams in the food of daily consumption, and if it is firmly held in a stable, insoluble chlorophyll combination, the chlorophyll being abundant for the purpose, it seems evident that no marked injurious action which may be recognized by clinical observations may be assumed to follow from the ingestion of the coppered vegetable.

An appreciable retention of copper presents, however, another phase of the problem which must have due weight, since it is altogether probable that such retention must have some deleterious action on the liver, or other organ where it occurs.

If, in the coppering of vegetables, an excess of the metallic salt is employed, an injurious action of this copper may certainly be affirmed. This danger is not a remote one, as a high copper content of cans of peas, with copper in the liquor as well as in the solid, has frequently been reported. In our laboratory experiments we have been able to show that an excessive amount of copper may be easily added and loosely held, in some other than the ordinary chlorophyll combination. As long as this possibility is present the whole coloring process, involving the use of a heavy metallic salt, must be looked upon with distrust, and must be considered as highly objectionable.

ABSORPTION AND DISTRIBUTION OF COPPER
WHEN COPPERED VEGETABLES
ARE EATEN.

By RUSSELL H. CHITTENDEN.



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ABSORPTION AND DISTRIBUTION OF COPPER WHEN COPPERED VEGETABLES ARE EATEN.

By RUSSELL H. CHITTENDEN.

Of the questions certified to the Referee Board of Consulting Scientific Experts by the Secretary of Agriculture bearing on sulphate of copper or other copper salts, the writer has given special attention to the third, namely: Are vegetables which have been greened with copper salts adulterated because they contain any added poisonous or other added deleterious ingredient which may render such articles injurious to health?

Soluble copper salts are well known to have poisonous action when taken in sufficient quantities by man or animals. How far this toxic action may show itself when the copper exists in more or less insoluble form, as when combined with such articles of food as peas, beans, and other kindred products, is not so clear. It is well known to toxicologists that copper salts have a strong affinity for albuminous and other kindred material, forming compounds of varying degrees of stability, and it might be assumed that small quantities of copper in such form as it exists in greened vegetables when taken into the system would not be absorbed. On the other hand, if the copper present in greened vegetables is absorbed from the gastrointestinal tract when such greened foods are eaten, even though in very small amounts, then such coppered foods must be considered as liable to prove dangerous to health. If copper as present in greened vegetables can be absorbed into the blood when the vegetables are eaten, there is the probability that copper may accumulate in some part of the system, in the different tissues and organs of the body, and thus eventually do harm.

The experiments about to be described were therefore directed primarily to ascertaining how far copper is absorbed and to what degree it is deposited in the organs and tissues of the body when taken in small doses in combination with a food such as canned peas.

THE AMOUNT OF COPPER IN GREENED PEAS.

Various brands of imported peas, bearing on the label the statement that they were colored with sulphate of copper, were purchased in the open market, and the amount of copper contained in them

was determined by the method described in the 1910 bulletin of the Connecticut Agricultural Experiment Station, the copper being finally weighed as cupric oxide, CuO . The following results are typical of what was found:

Milligrams of copper (Cu) per kilogram of drained peas.¹

Brand.	Mgs.
Cresca Pinard, petits pois.....	19.8
Cresca Pinard, petits pois—extra fins.....	61.2
Le Soleil Malines, petits pois—extra fins.....	40.6
Le Soleil Malines, Moyens No. 1.....	27.8
Le Soleil Malines, Moyens No. 1 (another lot).....	69.5
Le Soleil Malines, petits pois, Moyens No. 1.....	43.7
Le Soleil Malines, Moyens No. 1 (sample from 24 cans).....	47.8
Do.....	56.5
Do.....	70.9

The above results give the amounts of copper contained in the various samples of peas when freed from the liquor present in the cans. The method of procedure was to drain the peas, when the cans were opened, on a fine sieve for one minute, using only the solid matter on the sieve for analysis. It will be noted that there is great variation in the content of copper in different samples of the same brand. The liquor with which the peas are mixed in the can likewise contains copper. The following results show the amounts of copper present in the liquor surrounding the peas in the cans in different brands:

Milligrams of copper per kilogram of liquor.

Brand.	Mgs.
Cresca Pinard, petits pois.....	12.3
Cresca Pinard, petits pois—extra fins.....	8.9
Le Soleil Malines—extra fins.....	5.9
Le Soleil Malines, Moyens No. 1.....	24.5
Le Soleil Malines, Moyens No. 1 (another lot).....	24.5

From these results it is seen that the liquor which surrounds the peas in the original containers has in it a small but appreciable amount of copper. How much of this copper is actually in solution and how much is contained in the sediment and débris that passes through the fine sieve we have not attempted to determine.

Several brands of domestic canned peas subjected to the same methods of analysis as were employed with the imported peas failed to show even a trace of copper, either in the peas or in the surrounding liquor.

The copper contained in the imported peas is apparently quite closely combined with the substance of the pea. Even when the peas were subjected to the action of 2 per cent hydrochloric acid or 1 per cent potassium hydroxide solution for three days at room temperature no copper was extracted that could be detected in the

¹ The figures given are the averages of duplicate or of several analyses.

filtered fluid by hydrogen sulphide. The same negative result was obtained when the coppered peas were treated with boiling 2 per cent hydrochloric acid or 1 per cent solution of potassium hydroxide for three to five minutes.

FEEDING EXPERIMENTS WITH DOGS.

Eight dogs, representing different types, were selected and divided into three groups. Group 1 was composed of two dogs to serve as controls. To these animals no copper was fed. Group 2 was composed of four dogs. To all these animals coppered peas containing a known amount of copper were fed daily. Group 3 was composed of two dogs which were fed daily a definite amount of copper in the form of copper sulphate. All of the dogs were given what might be termed a normal diet composed of meat, cracker meal, bones, etc., in sufficient amounts to maintain body weight, but without strict adherence to definite quantities. To the animals of Group 2 coppered peas were added to the diet, and to one dog of Group 1 domestic peas without copper were fed.

The experiment was divided into periods of 10 days, six periods in all, making a total of 60 days or two months. The animals were confined in separate cages suitably constructed for the collection of all urine and feces passed. The urine and feces of each animal were properly preserved and analyses made for copper of the mixed and sampled urine, and likewise of the mixed and sampled feces, for each 10-day period. At the termination of the 60 days the animals were chloroformed, a careful autopsy of each made, and the organs and tissues analyzed for copper.

Dog No. 1 was a bull terrier dog, purchased of a dog fancier; nearly 1 year old; weight 13.8 kilos. Brother of dog No. 3.

Dog No. 2 was a brown mongrel dog; young, but full grown; weight 12.6 kilos.

Dog No. 3 was a bull terrier dog, purchased of a dog fancier; nearly 1 year old; weight 10.6 kilos. Brother of dog No. 1.

Dog No. 4 was a fox terrier bitch; young, but had borne pups; weight 8.6 kilos.

Dog No. 5 was a Boston bull bitch; had just borne pups; was probably 3 or 4 years old; weight 11 kilos.

Dog No. 6 was a young white bull dog; weight 9.6 kilos.

Dog No. 7 was a brindle bitch; young, and had not borne pups; about 1 year old; weight 8.6 kilos.

Dog No. 8 was a mongrel bitch; young, but full grown; weight 11.8 kilos.

The feeding of the dogs with copper began on the morning of April 29, 1911, the first period of 10 days extending to May 9. On this day the second period of 10 days was commenced, the feces of the two periods being separated by the giving of a carmine capsule on the

morning of the 9th. The periods were continuous, the sixth period commencing on June 18 and terminating at the close of June 27. The dogs were chloroformed in order from June 29 to July 1, with the exception of dog No. 8, which was chloroformed on June 9 owing to her poor condition.

Weights¹ of the dogs in the different periods of the experiment, in kilograms.

Dog.	Period 1, Apr. 29- May 8.	Period 2, May 9- 18.	Period 3, May 19- 28.	Period 4, May 29- June 7.	Period 5, June 8- 17.	Period 6, June 18- 27.
Group 1, controls:						
No. 1.....	13.8	13.8	15.0	15.0	15.2	15.8
No. 2.....	12.6	12.6	12.4	12.8	13.0	13.0
Group 2:						
No. 3.....	10.6	11.2	11.8	12.4	12.8	13.4
No. 4.....	8.6	8.2	8.2	8.2	8.2	8.2
No. 5.....	11.0	9.8	9.8	9.8	9.6	9.8
No. 6.....	9.6	9.6	9.8	9.8	10.2	10.2
Group 3:						
No. 7.....	8.6	8.4	8.2	8.6	8.8	8.8
No. 8.....	11.8	11.4	11.2	11.0	9.0	.....

¹ The figures given are the weights of the animals at the beginning of each period.

From these data it is seen that dogs Nos. 1 and 3 gained steadily in weight throughout the experiment. Dogs Nos. 2, 4, 6, and 7 remained fairly constant in weight or underwent only a slight change. Dog No. 5 lost weight during the first period, after which she remained constant. Dog No. 8, on the other hand, lost weight slightly but steadily during the first three periods. During the fourth period the loss in weight was very marked, a condition coincident with other changes to be referred to later.

Amount of copper fed daily in coppered peas and as copper sulphate.

Dog.	Periods 1 and 2, Apr. 29-May 18.	Period 3, May 19-28.	Period 4, May 29-June 7.	Period 5, June 8-17.	Period 6, June 18-27.
Group 1, controls:					
No. 1.....	58 gms. domestic peas, no copper.	116 gms. domestic peas, no copper.	98 gms. domestic peas, no copper.	98 gms. domestic peas, no copper.	108 gms. domestic peas, no copper.
No. 2.....	No peas, no copper.	No peas, no copper.	No peas, no copper.	No peas, no copper.	No peas, no copper.
Group 2:					
No. 3.....	45 gms. coppered peas, 2.15 mg. Cu.	90 gms. coppered peas, 4.29 mg. Cu.	76 gms. coppered peas, 4.29 mg. Cu.	76 gms. coppered peas, 4.29 mg. Cu.	92 gms. coppered peas, 6.52 mg. Cu.
No. 4.....	36 gms. coppered peas, 1.72 mg. Cu.	72 gms. coppered peas, 3.45 mg. Cu.	61 gms. coppered peas, 3.45 mg. Cu.	61 gms. coppered peas, 3.45 mg. Cu.	59 gms. coppered peas, 4.18 mg. Cu.
No. 5.....	48 gms. coppered peas, 2.29 mg. Cu.	96 gms. coppered peas, 4.58 mg. Cu.	81 gms. coppered peas, 4.58 mg. Cu.	81 gms. coppered peas, 4.58 mg. Cu.	68 gms. coppered peas, 4.82 mg. Cu.
No. 6.....	41 gms. coppered peas, 1.96 mg. Cu.	82 gms. coppered peas, 3.90 mg. Cu.	69 gms. coppered peas, 3.90 mg. Cu.	69 gms. coppered peas, 3.90 mg. Cu.	72 gms. coppered peas, 5.11 mg. Cu.
Group 3:					
No. 7.....	1.75 mg. Cu as copper sulphate.	3.50 mg. Cu as copper sulphate.	3.50 mg. Cu as copper sulphate.	3.50 mg. Cu as copper sulphate.	4.32 mg. Cu as copper sulphate.
No. 8.....	2.37 mg. Cu as copper sulphate.	4.74 mg. Cu as copper sulphate.	4.74 mg. Cu as copper sulphate.	4.74 mg. Cu as copper sulphate.	

During the first two periods, namely, for 20 days, all of the animals, excepting those of the control group, received copper daily, either in the form of coppered peas or as copper sulphate, equal to 0.2 milligram of metallic copper per kilogram of body weight. During periods 3, 4, and 5 the dosage of copper was doubled, so that each animal, excepting those of the control group, received daily 0.4 milligram of metallic copper per kilogram of body weight, either in the form of coppered peas or as copper sulphate. During the sixth period, i. e., the last 20 days, the dosage was increased to 0.5 milligram of metallic copper per kilogram of body weight. The peas fed were moist, thoroughly cooked by steam, and made palatable for the dogs by an admixture of hashed meat and meat broth.

With the exception of dog No. 8, all of the animals remained in good condition throughout the experiment. Dog No. 8, however, on May 29, namely, at the beginning of the fourth period, having had copper in the form of copper sulphate for 30 days, showed in her urine some blood. Microscopic examination revealed large numbers of red blood corpuscles in the urine. This bloody condition of the urine continued more or less noticeable for some days. The animal, however, had a good appetite and appeared in her usual condition up to June 2. On June 9, however, her condition was so much worse that it was apparent the animal would not live long. Her appetite had fallen off, and on this date she would not take food or water. Physical examination revealed nothing more than a touch of mange, with considerable mucus running from the eyes and nose. Body weight had fallen off very noticeably. On the afternoon of this date the dog was chloroformed. At the autopsy the liver was found to have a peculiar appearance, being bright red, and quite soft and spongy to the touch. The alimentary canal, which was empty, seemed perfectly normal. No abnormal appearance was presented in any organ except the liver. The body weight of the dog just prior to death was 9.0 kilos. Small portions of the organs and certain of the tissues were placed in Zenker's fluid, where they were allowed to stand for 12 hours, then washed in running water for 12 hours, after which they were allowed to stand in 50 per cent alcohol and a little iodine solution for 24 hours. They were then transferred to 70 per cent alcohol for 24 hours, and later in 95 per cent alcohol for the same length of time; finally in absolute alcohol. The pieces of tissues so prepared were then sent to Dr. Theobald Smith on June 12. The major portions of the organs and tissues were placed in glass-stoppered jars in 95 per cent alcohol and preserved for chemical analysis.

The other dogs were chloroformed as follows: No. 1, July 1, 9 a. m.; No. 2, July 1, 11 a. m.; No. 3, June 30, 1.30 p. m.; No. 4, June 30, 8.30 a. m.; No. 5, June 30, 10.30 a. m.; No. 6, June 29, 2.30 p. m.;

No. 7, June 30, 3.30 p. m. The autopsies of all these animals were made by Dr. Theobald Smith and Dr. Underhill. Samples of the tissues of all the animals were preserved in Zenker's fluid, as described in the case of dog No. 8, and were taken by Dr. Theobald Smith for microscopic examination. All the organs and tissues were carefully weighed when they were removed from the body, and the larger portion in each case was preserved for chemical analysis by being placed in 95 per cent alcohol.

*Weight of animals and of fresh organs at death.*¹

Dog.	Entire animal.	Stomach.	Small intestine.	Liver.	Kidneys.	Heart.	Lungs.	Spleen.	Brain.	Spinal cord.
No. 1	<i>Kilos.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>
2	17.2	174	515	601	82	87	132	38	70	20
3	12.8	80	264	392	59	114	105	27	72	20
4	14.2	130	431	435	65	90	105	22	72	16
5	7.1	68	209	285	36	43	57	12	61	17
6	9.7	90	303	442	57	68	66	16	59	12
7	10.1	121	238	435	62	73	73	20	61	13
8	9.1	70	248	255	58	55	64	20	65	12
8	9.0	80	287	273	66	62	80	24	58	12

¹ In addition to these organs 200 grams of muscle from the back were taken for analysis.

Analysis of the tissues for absorbed copper.—The tissues preserved in alcohol were evaporated to dryness (tissue plus the alcohol), sulphuric acid being added to the mixture in quantities sufficient to insure the conversion of any copper present to sulphate. In most instances all the material was used for a single analysis, but when there was sufficient to warrant it, and especially when there was evidence of copper, as with the liver, duplicate determinations were made. The acid residue was then ignited until the organic matter was destroyed, after which the ash was extracted with a large volume of dilute sulphuric acid, the fluid being boiled for half an hour. The solution was then filtered, concentrated, neutralized with concentrated ammonia, 2 to 3 cubic centimeters of concentrated hydrochloric acid added, and the fluid treated with hydrogen sulphide. The precipitate formed was filtered off and washed with hot hydrogen sulphide water. It was then fused with sulphur and sodium carbonate (equal parts), taken up in water, filtered, and the precipitate washed with boiling water. The precipitate was boiled with dilute nitric acid, filtered, 12 cubic centimeters of concentrated sulphuric acid added, and the mixture boiled down to 5 cubic centimeters to dispel nitric acid. The solution was next diluted with water, filtered, neutralized with ammonia, 2 to 3 cubic centimeters of concentrated hydrochloric acid added, and then treated with hydrogen sulphide. The precipitate was washed with hot hydrogen sulphide water, dried, incinerated, and weighed as cupric oxide (CuO).

Application of this method of analysis to the stomach, small intestine, heart, lungs, brain, spinal cord, spleen, and muscle failed to reveal even a trace of copper in any of these organs or tissues.

With the livers and kidneys, however, the results were different. With these two organs the presence of copper was demonstrated in every case. With the livers the following results were obtained:

Copper in the liver.

Dog.	Total weight of liver.	Copper (Cu) in entire liver.	Copper (Cu) per kilogram of tissue.
	<i>Grams.</i>	<i>Milligrams.</i>	<i>Milligrams.</i>
No. 1	601	7.2	11.9
2	392	7.0	17.8
3	435	18.0	41.3
4	285	8.1	28.4
5	442	10.9	24.6
6	435	12.8	29.4
7	255	13.0	50.9
8	273	18.0	29.8

¹ Dog No. 8, having been chloroformed June 9, had taken copper for only 40 days, instead of 60 days, as in the case of the other copper-fed dogs.

From these results it is apparent that copper when ingested with the food is absorbed from the gastro-intestinal tract, carried to the liver, and deposited there in appreciable quantities. This is in harmony with the generally accepted view that the liver of man and the higher animals will absorb and retain certain metallic poisons even when very minute quantities of such poisons are taken. The small amount of copper always found in the human liver, and which increases in amount with age, is attributed to the gradual absorption of traces of copper from cooking utensils and other sources, followed by some degree of accumulation of the absorbed copper in the liver. While under ordinary conditions of life this accumulated copper may not amount, even in the aged, to more than a few milligrams, it serves to illustrate a function or power which, working under different conditions, may lead to an excessive accumulation of an absorbed poison. Dogs Nos. 1 and 2 had no copper in any form added to their food. Dog No. 1 had domestic peas daily throughout the experiment and in relatively large amounts, but no copper could be detected in them by our methods of analysis. Dog No. 2 was fed an ordinary diet of meat, bones, and cracker dust, without copper, except for possible traces such as may be present from unknown sources. Dog No. 1 was from good stock, and prior to coming to the laboratory had lived under sanitary conditions where care was presumably taken to insure clean and healthful food. Dog No. 2, on the other hand, was a mongrel whose life had been spent under less sanitary conditions,

doubtless foraging for himself in large measure and presumably living upon such odds and ends of food as could be picked up. In any event, the liver of dog No. 2 contained more copper per kilogram of tissue than did the liver of dog No. 1. Both, however, furnish examples of the amount of absorbed copper that may be found in the livers of adult dogs feeding upon food that is free from any appreciable amounts of copper.

The four dogs fed on coppered peas, namely, Nos. 3-6, all showed a very noticeable amount of copper in the liver. Of the four dogs, No. 3 showed the largest amount per kilogram of tissue. It is to be remembered that these four dogs were fed on coppered peas daily for a period of 60 days. During this period dog No. 2 took 250 milligrams of copper. Dog No. 4 during the same period took 188 milligrams of copper, while dog No. 6 took in with his food during the 60 days 212 milligrams of copper. It is perfectly evident from these statements that even when the copper is taken in such a relatively insoluble form as exists in coppered peas a fairly large fraction of the copper ingested is deposited in the liver. One-tenth to one-twentieth of the ingested copper may be found in this organ when the copper fed is in the form of coppered peas. With dog No. 7, where copper sulphate was fed with the food, the amount of absorbed copper in the liver per kilogram of tissue was noticeably high, 50.9 milligrams. During the 60 days of the experiment 191 milligrams of copper in the form of copper sulphate were administered. At the death of the animal 13 milligrams of copper were found in the liver. This is not widely different from what was found in the case of animals fed on coppered peas, though the animal being small the copper per kilogram of liver tissue is relatively large, namely, 50.9 milligrams.

In the kidneys copper was found in every instance, but the amount was surprisingly small. The kidneys of these dogs weighed from 36 to 82 grams, so that these organs in any one animal were not large. Still, if copper was present to any appreciable extent, no difficulty should have been experienced in proving its presence. In only one case, however, was the amount of copper present in the kidneys sufficiently large to admit of being weighed, namely, in dog No. 7, fed on copper sulphate. The total amount of copper in the kidneys, expressed as metallic copper, was 1.6 milligrams. In the other seven dogs the amount of copper present was too small to be weighed and can be designated only as a trace. It is thus apparent that copper absorbed from the gastro-intestinal tract is not eliminated to any great degree through the kidneys. This statement is verified by the results obtained in the analysis of the urine passed by the dogs during the 60 days of the experiment. The following table gives the volumes of urine eliminated by the dogs during each 10-day period.

Total volume of urine for each period, in cubic centimeters.

Dog.	Period 1.	Period 2.	Period 3.	Period 4.	Period 5.	Period 6.
No. 1	3,735	3,790	3,695	3,815	3,670	4,810
2	2,330	2,605	2,460	3,130	2,880	2,835
3	3,105	3,885	3,730	3,125	3,215	4,775
4	1,960	2,405	2,860	2,130	1,880	1,500
5	2,800	2,875	3,315	2,700	2,110	2,760
6	1,795	2,805	3,835	2,590	2,235	2,845
7	2,490	2,655	2,900	2,965	2,780	2,890
8	2,835	3,245	3,330	2,165	.....	.....

In the analysis of the dogs' urines for copper, one-tenth of the mixed urine for each 10-day period was used. This was equivalent on the average to one day's urine. Each analysis, therefore, was made with a volume of urine ranging from 175 to 375 cubic centimeters. The urine to be analyzed was made acid with sulphuric acid, and the fluid evaporated to dryness. The remainder of the process was identical with the process already described under the head of the method of analysis used with the tissues. All of the urines of the eight dogs for every period were analyzed carefully for copper, but in no instance could the least trace of copper be demonstrated.

It is plain from the foregoing that the larger part of the copper taken with the food, either as coppered peas or as copper sulphate, must have been eliminated with the feces. The absence of appreciable quantities of copper from all the tissues of the body, with the exception of the liver, together with the absence of copper in the urine, plainly points to excretion of absorbed copper through the bile and thence through the feces. The following table shows the amounts of feces passed by the individual dogs in the different periods of the experiment:

Weights of air-dried feces, in grams.

Dog.	Period 1.	Period 2.	Period 3.	Period 4.	Period 5.	Period 6.
No. 1	140	147	182	144	220	168
2	135	103	123	128	92	105
3	208	187	234	265	185	203
4	81	113	113	117	117	94
5	125	139	148	176	152	127
6	180	135	123	174	127	186
7	144	116	109	116	82	113
8	141	120	101	77	.....	.....

Analyses of the feces of each period for each dog were made by the method already described under the head of analysis of the tissues. It was found necessary, however, in the preliminary treatment of the dried feces to treat with a fairly large quantity of concentrated sulphuric acid prior to ashing the material. It should be emphasized that the feces of the individual periods were sharply separated by the

giving of a carmine capsule at the beginning of each 10-day period. The following table shows the amount of copper, expressed in milligrams of metallic copper, contained in the feces of each 10-day period for all the dogs fed with coppered peas. The table also contains, for the sake of comparison, the amount of copper, expressed in milligrams of metallic copper, taken with the food during each 10-day period. Finally, it should be stated that analyses were likewise made of the feces of the two control dogs for each 10-day period with negative results; no trace of copper could be found therein.

Copper fed as coppered peas, and copper found in the feces, expressed in milligrams of copper (Cu), for each 10-day period.

Period.	Dog No. 3.		Dog No. 4.		Dog No. 5.		Dog No. 6.	
	Copper fed.	Copper in feces.	Copper fed.	Copper in feces.	Copper fed.	Copper in feces.	Copper fed.	Copper in feces.
1	21.5	20.4	17.2	17.2	22.9	23.9	19.6	12.1
2	21.5	21.0	17.2	(¹)	22.9	27.9	19.6	18.4
3	43.0	28.5	34.4	10.7	45.8	14.1	39.2	24.4
4	42.9	39.8	34.5	39.2	45.8	54.7	39.0	36.4
5	42.9	47.3	34.5	24.8	45.8	52.2	39.0	37.7
6	78.2	56.8	50.2	50.3	57.8	55.0	56.2	54.3
	250.0	213.8	188.0	¹ 142.2	241.0	227.8	212.6	183.3

¹ The copper was not determined in period 2 of this dog.

From these figures it is apparent that by far the larger part of the ingested copper passes out of the body through the feces. The data are fairly concordant, although there are minor discrepancies here and there that must be attributed in large measure at least to the natural difficulties of the procedure and the complexities of the chemical processes involved. Taking the totals for the six 10-day periods it is seen that in dog No. 3, which was fed 250 milligrams of copper in coppered peas during the 60 days of the experiment, 213.8 milligrams of copper passed out through the feces, equal to 85.5 per cent of the ingested copper. With dog No. 5, under like conditions, 94.5 per cent of the ingested copper was contained in the feces. In dog No. 6, where 212.6 milligrams of copper were fed in the form of coppered peas, 86.2 per cent of the ingested copper passed out with the feces. Taking the average result of these three experiments at 88.8 per cent it follows that where small amounts of copper are taken daily, as in coppered peas, through a period covering two months, at least 11 per cent of the ingested copper may be absorbed and retained within the body; notably in the liver. How far the copper which is found in the feces represents unabsorbed copper it is impossible at present to say. It is to be presumed, however, that a portion at least of the copper contained in the feces has been absorbed and is eliminated by way of the bile or possibly also through the intestinal epithelium, and so into the feces.

It is apparent from these results that when copper is taken into the system, even in relatively small amounts and in a comparatively insoluble form, as in coppered peas, a certain proportion of the copper is liable to be absorbed. Absorbed copper must be decidedly inimical to health. A soluble copper salt introduced directly into the circulation exercises a marked toxic action. It is true that there is a decided difference between copper sulphate, for example, introduced directly into the circulating blood and copper as it exists in coppered peas introduced into the gastro-intestinal tract, but if copper taken in the latter form is absorbed, then it must be present to some extent in the blood or lymph and must be capable of exerting some physiological action while it is circulating through the body. In view of these facts it seemed important to learn something regarding the degree of toxicity of a soluble copper salt when it is introduced into the system by intravenous injection. Accordingly a few experiments were made with rabbits and dogs, using sulphate of copper as the soluble copper salt.

A rabbit weighing 1.8 kilograms was the first subject. A solution of copper sulphate containing 0.5 milligram of copper (Cu) per cubic centimeter was injected slowly into the marginal vein of the ear. No effects were noted until 10 milligrams of copper had been introduced, when muscular twitchings were observed. When 13.5 milligrams of copper had been injected, the animal suddenly ceased breathing and the heart stopped beating. The time consumed in making the injection was 35 minutes.

In a second experiment a rabbit weighing 2.4 kilograms was employed. This time 20 cubic centimeters of a solution of copper sulphate containing 10 milligrams of copper (Cu) were injected into the marginal vein of the ear, the time of injection being 23 minutes. No symptoms of any sort manifested themselves, but the animal died suddenly four hours after the injection.

In a third experiment a slightly larger rabbit was used, while the copper solution was still more dilute and the period of injection was greatly lengthened. Ten milligrams of copper as copper sulphate dissolved in 100 cubic centimeters of 0.7 per cent sodium chloride were injected into the marginal vein of the ear of a rabbit weighing 2.55 kilograms, the injection period being $1\frac{1}{2}$ hours. No symptoms of any kind were observed during the injection period. On completion of the injection the bladder was emptied, about 100 cubic centimeters of bloody urine being obtained. The animal was placed in a cage, but refused to eat, and died during the night, about 30 hours after the injection. Nothing abnormal could be seen in the autopsy. Bloody urine amounting to 490 cubic centimeters was collected during the experiment and tested for copper, but with negative results.

In the next experiment the amount of copper injected was considerably smaller. A rabbit weighing 2.55 kilograms received 5 milli-

grams of copper as copper sulphate, dissolved in 50 cubic centimeters of sodium chloride solution, by injection into the marginal vein of the ear, the period of injection being 30 minutes. There were no visible effects from the use of the copper, but the animal died during the night. During the experiment 140 cubic centimeters of bloody urine were collected and tested for copper, but with negative results.

A dog weighing 7.1 kilograms, under anesthesia, received 10 milligrams of copper as copper sulphate, dissolved in 100 cubic centimeters of sodium chloride, by injection into a branch of the jugular vein, the period of injection being 1 hour. The animal was then placed in a cage and the urine and feces collected for a period of seven days, when the animal was killed by chloroform. During this period the animal refused to eat and was inclined to vomit almost immediately after taking water. During the last few days the animal's breathing was noticeably labored. The autopsy showed the kidneys very much shrunken and lumpy. The weight of both together was 33 grams, while the weight of the liver was 200 grams. No copper could be found in the kidneys, but in the liver there were 2.2 milligrams of copper (Cu). Except for a diarrhea on the second day, only 5 grams (dry weight) of feces were passed, and only about 800 cubic centimeters of urine during the entire experiment. No copper could be found in the feces or urine, or in the feces-urine mixture passed during the diarrhea of the second day.

While it is true that these quantities of copper introduced intravenously are relatively large per kilogram of body weight, yet the experiments serve to illustrate how intensely toxic soluble copper may prove, under some conditions at least. In the last experiment quoted above, with a rabbit of 2.55 kilograms, the quantity of copper introduced intravenously amounted to 1.9 milligrams (Cu) per kilogram of body weight. In the case of the dog weighing 7.1 kilograms, the copper introduced into the circulation amounted to 1.4 milligrams (Cu) per kilogram of body weight. In both cases the toxicity of the copper was very evident, even though the copper was introduced into the circulation very gradually. Although the dog was chloroformed, it would undoubtedly have died in time from the effects of the copper. In the feeding experiments with coppered peas the maximum doses given were 0.5 milligram of copper (Cu) per kilogram of body weight. This is about one-third the dosage of soluble copper introduced directly into the blood in the case of the experiment with the dog. Obviously, when copper is taken in the form of greened vegetables, the amount present in the blood at any one time is probably very small. Still, it is well to emphasize the fact that copper in solution circulating throughout the body is a very toxic agent; even when present in the circulation in very minute quantities its physiological action is likely to show itself in some form.

FEEDING EXPERIMENTS WITH MONKEYS.

Four monkeys of about the same size, all from the same shipment, purchased in New York, served as subjects for another series of feeding experiments, in which it was intended to use, as in the case of the dogs, coppered peas. It was found on preliminary trial, however, that the monkeys could not be made to eat peas in any form; indeed, they could not be induced to touch them whether they were greened with copper or not. The experiment, therefore, resolved itself into a feeding test in which copper sulphate was employed. The copper salt was fed daily—dissolved in a little water—mixed with ground banana, a food which the monkeys ate readily. The copper solution used contained 0.03 milligram of metallic copper per cubic centimeter.

Monkey No. 1, female, weighed 1.8 kilograms; monkey No. 2, female, weighed 1.4 kilograms; monkey No. 3, female, weighed 1.6 kilograms; monkey No. 4, male, weighed 1.4 kilograms.

The animals were kept in roomy cages, suitably constructed for the collection of the excretions. The feeding experiment with copper began on June 8, monkeys Nos. 1, 2, and 3 receiving 1 milligram of metallic copper per day. Monkey No. 4 served as a control, and was fed on a diet entirely free from copper. The daily diet was varied as much as possible, the principal articles of food being bread, oats, cracked corn, lettuce, spinach, carrots, and bananas.

The periods were six in number, each of 10 days' duration, the entire feeding experiment thus covering 60 days. During the second period of 10 days the copper-fed monkeys received 2 milligrams of metallic copper daily. This dosage was adhered to until the beginning of the sixth period, when it was increased to 3 milligrams of copper per day in the form of copper sulphate. Throughout the entire 60 days all the monkeys—the copper-fed animals and the control animal—remained perfectly well, showing no apparent effects from the copper fed. The experiment was terminated August 7, on which date all four monkeys were chloroformed. All the tissues, together with some muscle, were removed; samples were preserved in Zenker's fluid for microscopic examination by Prof. Smith, while the larger portions of the tissues were subjected to chemical analysis.

Owing to the fact that it was impossible to make the monkeys eat coppered peas, the experiment does not possess the value it would otherwise have had. It seems unnecessary, therefore, to enter upon any detailed presentation of the various data collected, especially as most of the results were negative in character.

The urines of all the animals were collected throughout the entire experiment, but on chemical analysis no trace of copper was found in any of these excretions.

The feces collected in the different periods were subjected to analysis for copper and, as in the experiments with the dogs, copper was found in relatively large abundance.

The individual organs and tissues were likewise analyzed for copper, but no trace of copper was found in any of the tissues of the body, except in the liver. In the livers of monkeys Nos. 1, 2, and 3 traces of copper were found, but the amount in each animal was too small to be weighed. The methods of analysis used for separating the copper from the excretions and from the tissues were the same as previously described in the experiments with dogs.

The results collectively confirm, in a measure at least, the results obtained in the more satisfactory feeding experiments with dogs. In view, however, of the small size of the animals and the consequent small weight of the individual organs, coupled with the difficulty of determining traces of copper in such organic material, the experiment does not add anything of importance to what has already been reported. Further, the refusal of the animals to eat coppered peas detracts from the value of the experiment as a study of the absorption and distribution of copper when the latter is eaten in greened vegetables. The results of the experiment serve to demonstrate the general principle that copper compounds when eaten are, in some degree at least, absorbed and tend to undergo deposition in the liver, the larger proportion of the copper ingested appearing in the feces.

CONCLUSIONS.

These experiments serve to show that when coppered vegetables are eaten with the food a certain proportion of the copper is absorbed and may be temporarily deposited in the liver. Even when taken in very small amounts, copper ingested in this way is prone to be absorbed in some degree, and thus constitutes a menace to good health. The conclusion seems obvious that vegetables which have been greened with copper salts are adulterated, because they contain an added poisonous or deleterious ingredient which may render such articles of food injurious to health, whether taken in large quantities or in small quantities. In any event, there is an element of danger in coppered foods which, from a physiological standpoint, should not be ignored.

HISTOLOGICAL EXAMINATION OF THE TISSUES
OF DOGS AND MONKEYS.

By THEOBALD SMITH.



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HISTOLOGICAL EXAMINATION OF THE TISSUES OF DOGS AND MONKEYS.

By THEOBALD SMITH.

The tests made under the direction of Prof. Chittenden on dogs and monkeys offered the means of examining the subjects at the end of the experiment and preserving small portions of various organs for histological examination. Any differences between the dogs which had been fed with the substances containing copper salts and those reserved as controls, made manifest by the methods employed, could then be noted and studied. For this purpose the writer urged before the beginning of the test the purchase of dogs of the same litter, if possible, so as to eliminate differences due to breeds, feed, and environment which otherwise might be charged to the substances ingested. Of the eight dogs included in the experiment, two were of the same litter. One of these was included among the controls, the other among those fed with coppered peas.¹

The methods employed in preparing tissues were those current in pathological laboratories. The tissues removed immediately after the animal had been killed with chloroform were placed in Zenker's fluid and 10 per cent formalin. The Zenker's fluid was removed after 24 hours, the tissues washed in running water for 24 hours, and then hardened in 48 per cent, 67 per cent, and 82 per cent alcohol. They remained in 82 per cent alcohol for some weeks and were then embedded in paraffin, and the sections, prepared from the paraffin blocks, were stained in hematoxylin and eosin and in eosin and alkaline methylene blue. Portions of tissues in formalin were kept in that fluid. Other portions were hardened in alcohol of ascending strengths and stored therein. The histological examination of the tissues was restricted to those fixed in Zenker's fluid.

The autopsies of dogs Nos. 1 to 7, inclusive, were performed by the writer in conjunction with Prof. Underhill, June 29 and 30, and July 1, 1911, at New Haven, Conn., in the laboratories of Prof. Chittenden. Dog No. 8 was killed earlier and the tissues sent to the writer after having been fixed and hardened as described above. When the day set for the autopsies of the four monkeys arrived the

¹ It should be stated here that the writer voluntarily abstained from learning the nature of the treatment to which the dogs had been subjected until all of the microscopic work had been completed.

writer was confined to his bed on account of illness, and the tissues were fixed and hardened by Prof. Underhill and subsequently sent to Boston for further study.¹

EXAMINATION OF THE DOGS.

The autopsy included a thorough examination of the thoracic and abdominal viscera, the bones, the brain, and the spinal cord.

Dog No. 1. Control. Received uncoppered peas. Chloroformed July 1, 1911.

The only noteworthy abnormalities were as follows: Considerable mucus covers mucosa of stomach. Slight patchy congestion of mucosa of small intestine. Peyer's patches conspicuous. Hook-worms (*Uncinaria*) in moderate numbers attached to mucous membrane of small intestine. Large numbers of *Trichuris* in cæcum.

Scattered over various lobes of the lungs are subpleural, hyperæmic to hemorrhagic nodules, from the barest specks up to 2 mm. in diameter.

Kidneys, after removal of capsule, show gray to yellowish white areas not elevated above the surface, about 1 to 1.5 mm. in diameter and 0.5 to 1 cm. apart. Similar foci seen on section in the cortex.

The histological examination included a piece of the lungs, liver, stomach, thyroid, spleen, skeletal muscles, three different lymph nodes, kidney, bladder, three regions of small intestine, two of large intestine, spinal cord, and medulla.

The superficial portion of the mucous membrane of stomach appears as if some slight auto-digestion had taken place. No other changes noticed. In small intestine there seems to be a slight increase in the polynuclear leucocytes in the capillaries of the expanded free ends of villi. Possibly a slight predominance of mucous cells in ileum.

In the cæcum the specimens of *Trichuris* are threaded beneath the surface layer of epithelium, which is more or less atrophied at these points. No adjacent cell changes, either infiltrative or proliferative, detected. Several circular holes in the section interpreted as transverse sections of distended tubules with epithelium atrophied or completely destroyed and replaced by cell débris. These changes in

¹ The material obtained from the dogs and monkeys (tissues in alcohol, paraffin blocks, and slides of stained sections) is stored in the Laboratory of Comparative Pathology, Harvard Medical School, Boston, Mass., under the following designations:

$$\text{Dog } \frac{49}{1} = \text{B. 320.}$$

$$\text{Dog } \frac{50}{2} = \text{B. 321.}$$

$$\text{Dog } \frac{51}{3} = \text{B. 322.}$$

$$\text{Dog } \frac{52}{4} = \text{B. 323.}$$

$$\text{Dog } \frac{53}{5} = \text{B. 324.}$$

$$\text{Dog } \frac{54}{6} = \text{B. 325.}$$

$$\text{Dog } \frac{55}{7} = \text{B. 326.}$$

$$\text{Dog } \frac{56}{8} = \text{B. 309.}$$

$$\text{Monkey } \frac{11}{1} = \text{B. 338.}$$

$$\text{Monkey } \frac{12}{2} = \text{B. 339.}$$

$$\text{Monkey } \frac{13}{3} = \text{B. 340.}$$

$$\text{Monkey } \frac{14}{4} = \text{B. 341.}$$

the tubules may be due to the mechanical plugging of their mouths by the overlying parasites.

Liver cells of normal appearance; substance of cell in form of network, inclosing transparent spaces (glycogen?). One focus about 0.5 mm. diameter consists of a space in the tissue filled with a dense mass of red cells and a peripheral mantle of polynuclear leucocytes. Several other smaller foci of polynuclears in same section.

In spleen, malpighian bodies somewhat prominent. Pigment not noticeable.

In kidney sections a slight amount of fat in convoluted tubules. Several foci in cortex, one directly under capsule, probably corresponding to the gray areas seen at autopsy. These foci composed centrally of relatively large endothelial elements (epithelioid) and on periphery of lymphoid cells.

The lung sections show minute irregular foci of consolidation, due to the filling of some of the alveoli with endothelial cells, others with polynuclear leucocytes. Red cells are generally diffused through the foci, together with fibrin.

In sections from two pieces of muscular tissue a few cell foci occur, some formed centrally of endothelial elements and with a peripheral mantle of round or lymphoid cells; others made up chiefly of round cells. These foci are about as large as those in the kidneys.

In sections of the thyroid most of the acini do not contain colloid. Two cell foci occur, in character similar to those in the muscles. In the center of each a cross or oblique section of a foreign body is visible which on closer examination proves to be a larval nematode worm.

The general resemblance of the cell foci found in the lungs, muscles, thyroid gland, and kidney point to a common cause. These foci have much resemblance to tubercles, and the slight differences among themselves observed are probably traceable to the different levels of the nodules from which the sections were cut. The worms found in the thyroid nodules make it quite certain that all of them in the organs examined are due to the irritation caused by the worm. The identity of the worms was not revealed, although they are probably not the larvæ of the hookworms found in the small intestine.

This dog has shown nothing abnormal so far as the examination has gone. The parasitic invasion of the organs was probably under way when the experiment began and has probably had no appreciable influence on the health of the animal.

Dog No. 2. Control. Received no peas. Chloroformed July 1, 1911.

In the small intestine a moderate number of *Ascaris* and *Dipylidium* (tapeworms). No other parasites detected. Mucosa overlaid with a thin layer of a mass resembling flour paste and not easily rubbed off. Lower half bile stained and slightly reddened in spots.

In azygos lobe of lungs, a semitranslucent focus, subpleural, about 5 mm. diameter.

No other appearances worthy of note.

The histological examination included a portion of the following organs: Skin, stomach, three regions of small intestine, large intestine, liver, pancreas, spleen, kidney, bladder, two lymph nodes, lung, skeletal muscle, thyroid, thymus, and spinal cord.

The sections of stomach and intestines show nothing abnormal. In the liver sections the cells have a rarified appearance (glycogen?). A small number of isolated cells, disseminated irregularly, contain large (probably fat) vacuoles. Several very small collections of endothelial cells in the capillaries.

The small pneumonic focus found at autopsy in the lungs is characterized by the presence of a mixture of endothelial and polynuclear leucocytes in a delicate network of fibrin. Some pigment in adventitia of blood vessels.

The thyroid gland contains a moderate amount of colloid material. In the section several parathyroid bodies. In the spleen a moderate amount of orange pigment.

With the exception of the minute pneumonic focus this animal shows no marked deviation from the normal.

Dog No. 3. Received coppered peas. Chloroformed June 30, 1911.

The organs are normal with the following exceptions: Slight coating of mucus and some slightly reddened areas in small intestine. Many specimens of Uncinaria or hookworm attached to the membrane. There were also numerous specimens of *Ascaris canis* present. Peyer's patches prominent. In cæcum about a dozen specimens of *Trichuris*.

In the cortex of both kidneys a few round, grayish areas about 1 mm. diameter; not distinguishable from the normal tissue except by their color.

Scattered through lungs are subpleural, opaque, hyperæmic nodules varying in size, the largest being about 2 mm. in diameter.

The histological examination included a piece of the following tissues and organs: Skin, stomach, two regions of small intestine, large intestine, liver, pancreas, spleen, kidney, two lymph nodes, lung, skeletal muscles, thyroid, thymus, spinal cord, medulla, and cerebrum.

Sections of stomach and small intestines show nothing noteworthy. Slight increase of cells between tubules in the mucosa of cæcum to which large numbers of *Trichuris* are attached.

Liver cells show moderate fat vacuolation in a zone around portal areas and in bands extending from one central vein to the next, thus forming a network. Moderate numbers of very small lymphoid and polynuclear-cell masses (6 to 30 cells in a group).

In section of kidney several foci ascribable to a nematode as in dog No. 1. One hyaline cast in tubule. In convoluted tubules the vacuolation suggests some fat as in dog No. 1.

In one section from muscular tissue of abdomen three foci like those in dog No. 1. In one of these the center is made up of polynuclear leucocytes and a larval nematode in cross section. Outside of this nucleus is a zone of endothelial and giant cells. Outside of this is a forming capsule of young granulative tissue. In a second focus the center is composed of a dense mass of nuclear debris.

In sections of the lungs the same worm lesions found as in No. 1.

The thyroid gland, like that of No. 1, is nearly free from colloid. No worm nodules detected. The spleen shows the same features as that of No. 1.

Dog No. 4. Received coppered peas. Chloroformed June 30, 1911.

Both eyes show small masses of whitish secretion. In one a faint opaque spot on cornea. Slight scaly condition of skin on limbs suggesting mange.

In small intestines many small specimens of tapeworms (*Dipylidium*) and one *Ascaris*.

No abnormalities of other organs detected.

The histological examination included a piece of the following tissues and organs: Skin, stomach, two regions of small intestine, large intestine, liver, pancreas, spleen, kidney and bladder, lymph node, lung, skeletal muscle, thyroid, and spinal cord.

Sections of liver show accentuation and distention of intralobular capillaries with red cells. Cells stain more or less solidly.

Slight vacuolation of cells of convoluted tubules of kidneys suggesting fat.

In section of lymph node, polynuclear cells rather abundant. Some pigment.

In lungs capillaries distended with red cells. Some pigment in adventitia of blood vessels as in No. 2.

In section of skin some exfoliated epithelium still clinging to subjacent layers, but signs of scabies not seen.

Follicles of thyroid greatly distended with colloid. Epithelium of follicle very low.

Dog No. 5. Received coppered peas. Chloroformed June 30, 1911.

Some whitish frothy masses in the otherwise empty stomach. In small intestine some specimens of *Ascaris* and many tapeworms (*Dipylidium*).

In kidneys, on section, the basal half of cortex is streaked with yellowish lines. Nothing else of note observed.

The following organs and tissues were examined histologically, one piece being taken from each: Skin, stomach, two regions of small

intestine, large intestine, pancreas, spleen, kidney and bladder, two lymph nodes, lung, skeletal muscle, thyroid, and spinal cord.

Nothing noteworthy in sections of stomach and intestines. (Liver section missing.) In kidneys markedly vacuolated appearance of epithelium in tubules of columns of Ferrein, probably due to crystals, remaining untinted in sections.

In one area of lymph node section, marked diffuse infiltration of polynuclear leucocytes. In lungs only traces of pigment; no lesions found. Slight exfoliation of skin epithelium as in No. 2 and No. 4. Colloid abundant in thyroid, but less so than in No. 4.

Dog No. 6. Received coppered peas. Chloroformed June 29, 1911.

Slight excoriations about head. Some slightly roughened patches of skin on fore feet. Stomach fairly distended, firm. On opening, the hard contents found consisting of pieces of strap from the dog's muzzle, gnawed and swallowed by him and molded into a large roundish mass. No noticeable erosions of mucosa.

In small intestine one specimen of *Uncinaria* attached to mucosa. In ileum an area of mucosa 7 to 8 cm. long covered completely with small specimens of tapeworms (*Dipylidium*).

Feces in large intestine dry, blackish, rather firmly adherent to mucosa.

The following organs and tissues were examined microscopically, one piece from each: Stomach, two regions of small intestine, large intestine, liver, pancreas, spleen, kidney, lymph node, lung, skeletal muscle, heart muscle, thyroid, spinal cord, and medulla.

The sections of this case presented nothing noteworthy.

Dog No. 7. Female. Received copper sulphate; no peas. Chloroformed June 30, 1911.

The mucosa of small intestine coated with a bile-stained layer of mucus not removed by washing, but readily with stroke of knife. Slight congestion of underlying membrane. Some specimens of *Ascaris* and tapeworms present.

Directly under capsule of kidneys a small number of cysts 1 to 1.5 mm. in diameter. Cortex somewhat paler and more yellowish than normal.

In this animal the following organs and tissues were examined in sections: Skin, stomach, two regions of small intestine, large intestine, liver, pancreas, spleen, kidney and bladder, lymph node, lung, skeletal muscle, thyroid, and spinal cord.

In sections of lower small intestine there appears to be more than the usual amount of mucus. Moderate number of cells in section of liver containing vacuoles (fat) in a zone around portal areas. Some small endothelial cell foci. In kidney sections a considerable number of small-cell foci almost wholly in interstitial tissue of cortex. Some are small with cells loosely disposed among tubules. Several are

long, extending as a band from capsule through to medulla and involving the glomeruli in atrophic changes. One small subcapsular cyst. In section of thyroid, a parathyroid included. Much colloid. Among the follicles an irregular group of confluent masses of colloid and blood corpuscles suggesting rupture and disappearance of parenchyma.

In section of skin supposed to be diseased, a dense mass of cells of the epidermis, the result of inflammation, attached to underlying cells and suggesting a fungous disease. The remaining tissues show nothing noteworthy.

DOG No. 8. Received copper sulphate; no peas. Chloroformed June 9, 1911.

Autopsy not witnessed. Fixed and hardened tissues received from Prof. Chittenden's laboratory by express. Of these there was examined one piece of the following organs and tissues: Stomach, two regions of small intestine, liver, pancreas, spleen, kidney, lung, skeletal muscle, and spinal cord.

In sections of stomach nothing noteworthy. In small intestine epithelium very low and mucus cells scarce as compared with other dogs. Liver cells all solidly stained. Slight increase in polynuclear cells in capillaries. One minute focus made up of polynuclears among disintegrated parenchyma cells.

In kidney sections, considerable diffuse and focal increase of cells in interstitial tissue of cortex associated with crowding apart and atrophy of tubules. Focal, more or less bandlike areas of round-cell infiltration from capsule to medulla, with occasional necrosis of tubules. Hyaline casts in tubules associated with these lesions.

A considerable number of polynuclear leucocytes in capillaries of lungs.

Spleen section uniformly permeated with polynuclear cells. Very large amount of pigment and intracellular clumps of red cells.

A comparison of the gross and minute pathological conditions found in the eight dogs shows a relatively slight yield from these methods of inquiry. A few facts, however, seem worthy of note.

There has been no noticeable influence of the copper salts on the parasites in the digestive tract. Thus, dogs Nos. 1 and 3 were from the same litter and probably infested alike with worms at the start. But the autopsy showed no difference, although No. 3 had been fed with coppered peas and No. 1 with uncoppered peas. Parasites were also present in the other dogs fed with coppered peas. How many had been driven off by the feeding can not be told. The original content of parasites may have varied considerably, since the remaining dogs (Nos. 2, 4 to 8) came from different places. Only Nos. 1 and 2 are of any value, and in these the content of the digestive tract in parasites is nearly the same. In general it can be stated that the feeding with coppered peas did not have any decided vermifuge

action. The invasion of the various organs and tissues of Nos. 1 and 3 by some larval nematode worm had probably taken place before the feeding began. No influence of the feeding is recognizable, as the focal lesions are the same in both dogs.

Of the two dogs fed with copper sulphate some parasites were found in dog No. 7. The writer did not make an examination of No. 8, and no notes are at hand on the presence of intestinal parasites in this case. Here, also, we may state that even the copper sulphate did not completely remove intestinal parasites.

Very little, if any, appreciable differences were found between the controls on the one hand (Nos. 1 and 2) and the dogs fed with coppered peas on the other (Nos. 3 to 6). There was some fat in the liver of No. 3 as compared with his (control) brother No. 1. More than this can not be stated. There is, however, a distinction to be drawn between the dogs fed with coppered peas and those fed with copper sulphate. No. 8 was chloroformed before the close of the experiment because ill. In both No. 7 and No. 8 there was present an interstitial inflammation of the kidneys localized in the cortex, which was absent in all the others. The kidney lesions in Nos. 1 and 3 were, as already stated, due to parasites. In No. 8 there were also other lesions (extensive, fresh pigment in the spleen, leucocytosis).

HISTOLOGICAL EXAMINATION OF TISSUES FROM MONKEYS.

As stated above, the writer was unable to witness the autopsies of the four monkeys included in the experiment. The tissues, as given below, were prepared and examined with those of the dogs. Only tissues fixed in Zenker's fluid were studied.

MONKEY No. 1. Fed sulphate of copper. Chloroformed August 7, 1911.

The tissues examined included the following: Small intestine, three regions, large intestine, liver, kidney and bladder, spleen, lungs, heart muscle, and spinal cord.

In sections of small intestine slight increased desquamation of cells. In liver, cells more or less rarefied (glycogen?). A few small lymphoid-cell groups in portal areas or within lobules. In several tubules of kidneys, groups of necrotic cells, i. e., with strongly pycnotic nucleus and metachromatic staining of protoplasm. Malpighian bodies of spleen very prominent.

MONKEY No. 2. Fed sulphate of copper. Chloroformed August 7, 1911.

Tissues examined included the stomach, small intestine, large intestine, liver, kidney and bladder, spleen, lungs, and spinal cord.

In stomach section some slight increase in intertubular lymphoid tissue. In the liver section a few small lymphoid-cell groups only. Tissue appears dense and sinusoids partly effaced. Parenchyma cells rarefied (glycogen?). In kidneys some small endothelial-cell foci.

A mitotic figure in epithelium of tubule. Probably slight increase in polynuclear leucocytes of spleen.

MONKEY No. 3. Fed sulphate of copper. Chloroformed August 7, 1911.

The tissues examined included stomach, small intestine, large intestine, pancreas, liver, kidney and bladder, spleen, heart muscle, lungs, and spinal cord.

In stomach section lymph follicles at base of tubules rather conspicuous. In liver, small lymphoid-cell groups scattered through section rather more numerous than in monkey No. 1. Malpighian bodies of spleen very large and conspicuous. Nothing noteworthy in remaining tissues.

MONKEY No. 4. Control. Chloroformed August 7, 1911.

Tissues examined included in this case stomach, small and large intestines, liver, kidney and bladder, spleen, heart muscle, lungs, and spinal cord.

Section of large intestine includes a worm-nodule in submucous tissue. Sinusoids of liver lobules barely indicated. Cells stain compactly. In kidney sections, groups of necrotic epithelial cells in cross section of tubules. Some small endothelial-cell foci also present in interstitial tissue. In spleen a moderate increase in polynuclear leucocytes. Alveoli in section of lungs filled with a finely granular reddish stained material.

In these animals the microscopic examination, as far as it went, did not reveal any differences between control and treated monkeys. It would seem as if this species of animal was better able to neutralize the poisonous action of copper sulphate than the dog.



